AR26

50th Anniversary Issue

STELCO FLASHES

These Events Made the News In Year 1910

What events made news in Canada and throughout the world in 1910—the year when businessmen representing five Canadian firms joined forces to form The Steel Company of Canada, Limited?

These were some of the highlights of that year:

Canadians were saddened by the death of King Edward VII on May 6. He was succeeded on the throne by King George V, then 45 years of age.

Sir Wilfrid Laurier, Prime Minister of Canada, celebrated his 69th birthday and toured the Canadian West which was being opened up by the arrival of immigrants.

A spokesman before the Royal Statistical Society in London, England, said British investment in Canada was reaching phenomenal proportions. He said the British had risked more than $486,000,000 on Canadian developments in the three years between 1908 - 1910. (Foreign investment in Canada at the end of 1957 had reached approximately $17½ billion of which almost $2 billion was British).

Canada's W. M. (Max) Aitken, later to become Lord Beaverbrook, followed his successful merger of companies forming Stelco by being elected to the British Parliament as the Unionist (Conservative) candidate for Ashton-Under-Lyne.

Inauguration of the Marconi Transatlantic wireless service occurred on April 24—a great advance in communication, which foreshadowed the coming of radio and television.

A snowslide near the top of Selkirk Pass killed 62 workers clearing a railway line. Le Devoir—well known French-Canadian newspaper, began publication in Montreal. On June 30, the Royal Ontario Museum was opened.

And men were striving hard for world peace. Andrew Carnegie established the Carnegie Peace Fund with $10 million to "hasten the abolition of international war."

H. G. HILTON
Chairman
President 1945-1957

In this 50th anniversary issue of Stelco Flashes, you will be able to trace the history of individual plants which make up our Company.

Stelco began with the resolution of a few venturesome men to provide their fellow countrymen with steel products made in Canada. Their dream became a reality because they persevered with courage and vision against what seemed almost insurmountable odds, not the least of which was the Company's location in a still meagrely populated pioneering country.

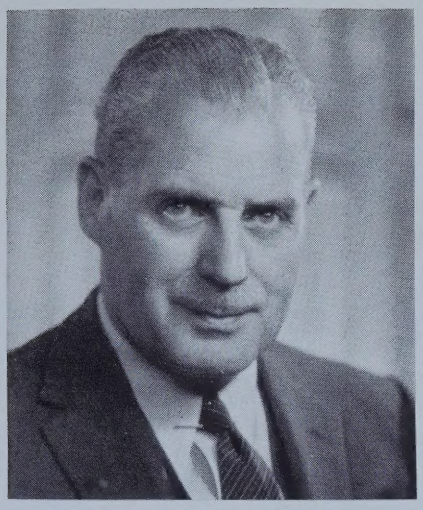
Many Canadian steel pioneers fell by the wayside, some losing their life savings in the process. Others clung doggedly to the task of making Canadian steel, firm in their faith in our nation's future.

Such were the men who created Stelco by raising the considerable amount of capital necessary for the building of plants and provision of equipment. The success achieved in the past 50 years is a story written by decent, hard-working and loyal men and women in our mills and offices. Their efforts to give an honest day's work for a good wage have enabled this Company to make quality products at a fair price and to deliver them when promised. They have created Stelco's reputation for fair dealings with all people.

Unfortunately, it is impossible to pay individual tribute to the thousands of men and women who, during all phases of the Company's development, have been the real story of its success.

On this occasion, however, the officers of your Company would like to express sincere appreciation to all men and women of Stelco for the part they have played in the Company's progress. We look back upon great achievements. We also look forward to even greater accomplishments in the years ahead.

H. G. Hilton



V. W. SCULLY
President

R. H. McMASTER
Director
Chairman of the Board 1945-1957
President 1926-1945

Stelco Founded in 1910 By Merger of Five Firms

The successful beginning of The Steel Company of Canada, Limited, in 1910 required all the skills and patience of a master private promoter. Fortunately for succeeding generations of Canadians, a man with those qualifications existed in the person of W. M. (Max) Aitken, a young Canadian who was later to become famous as Lord Beaverbrook, member of the British Parliament and eminent newspaper publisher.

A group of intrepid businessmen led by Beaverbrook brought together leaders of five steel companies and persuaded them to form The Steel Company of Canada, Limited. The sound organization they created proved able to survive difficult business conditions in Canada.

The five companies had plants located in Hamilton, Montreal, Lachine, Swansea, Brantford, Gananoque and Belleville. They were respectively: The Canada Screw Company and the Hamilton Steel and Iron Company in Hamilton; The Montreal Rolling Mills; Dominion Wire Manufacturing Company of Lachine and the Canada Bolt and Nut Company with headquarters at Swansea.

These were companies which had managed to exist and prosper in an under-populated country of seven million people, still largely "hewers of wood and drawers of water" dependent upon the manufacturers of Great Britain and the United States to supply their needs.

The United Kingdom had a population then of 44 million people, about two and one half times greater than that of Canada today. The United States had 92 million people, more than five times the present population of Canada. Both the U.K. and U.S. had established steel industries making full use of the Bessemer and open hearth methods of steelmaking. As a result, they were in a position to offer the strongest possible competition to steelmakers of any nation.

Despite these and other odds, including the fact that Canada did not possess the national status and unity of purpose it has today, the owners of the five steel companies which merged as Stelco created an

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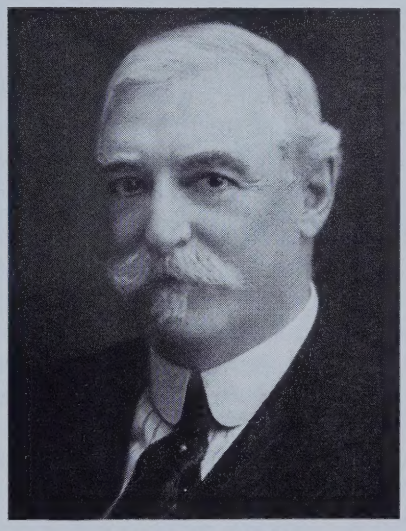
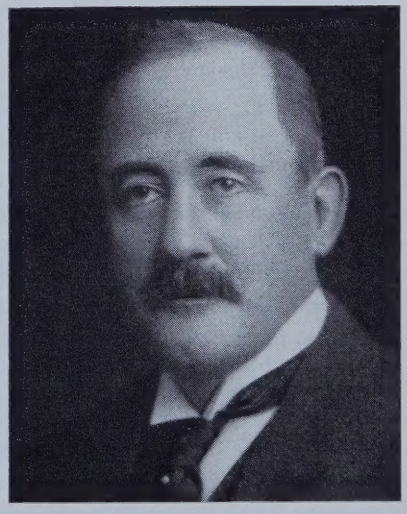


ROBERT HOBSON
President 1916-1926



CHARLES S. WILCOX
President 1910-1916
Chairman 1916-1938

Notre Dame Works Traces History Back to Nail Plant of 1790's

A hunter rises warily from a duck-blind on some lonely Canadian marsh in the cold, grey dawn. He sights quickly as the flock wheels overhead.

A Canadian miner enters a subterranean shaft on the early morning shift, is re-assured by a glance at the well-supported roof.

Somewhere a young Canadian mother eyes sleepily her wide-awake infant and snaps a safety pin into position.

At Stelco's Notre Dame Works, another day of making fine steel products begins. Unknowingly, the hunter, the miner, and the young mother have already benefited from the work of employees at Notre Dame.

The hunter has downed his bird with lead shot; the miner is protected by mine roof bolts, and baby's safety pin has been fashioned from high-grade wire, just three of many products made at Notre Dame. For generations, Canadians in every walk of life, have been helped by the products of this plant.

Largest Montreal Mill

Largest of Stelco's four plants in the Montreal area, Notre Dame Works was the original Montreal Rolling Mills, one of the five companies which entered the Stelco merger of 1910.

Notre Dame can lay claim to being the senior Stelco plant since the Montreal Rolling Mills had acquired the Pillow-Hersey Manufacturing Company in 1903, seven years before the merger. Pillow-Hersey could trace its origin to John Bigelow's cut nail plant established sometime in the 1790's in Montreal.

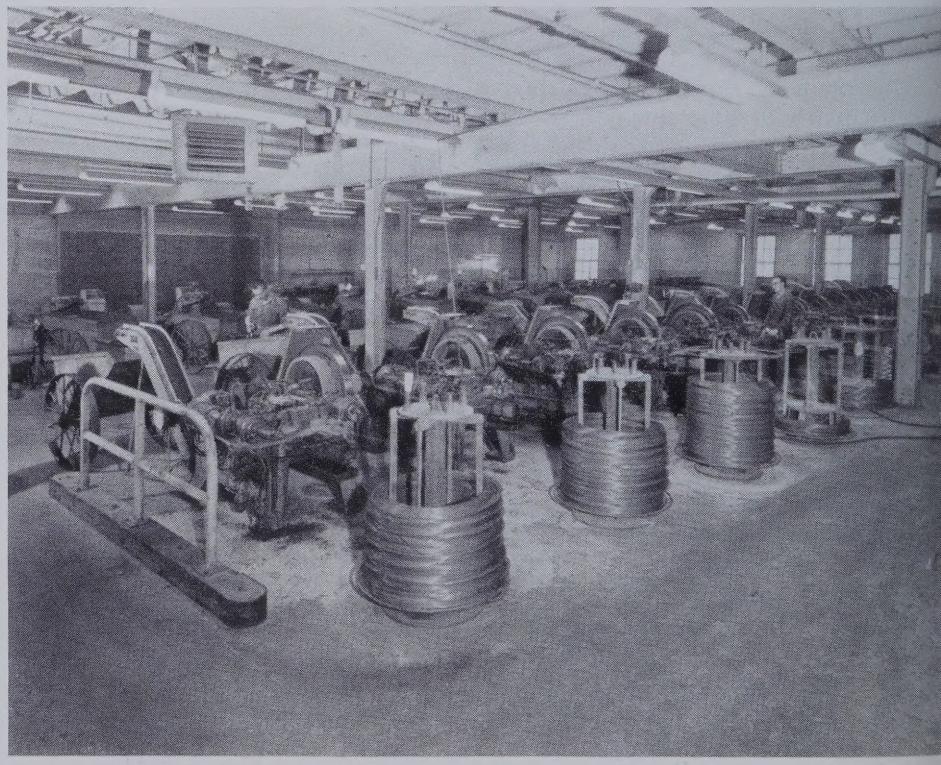
Prior to 1868, Notre Dame Works was owned by the Morland Watson Company, and the plant included a lead works and shot tower, a horse-nail works, rolling mill and tack works. On May 8, 1868, a group of Montreal men acquired the property and re-organized the company as the Montreal Rolling Mills Company.

In 1903, that Company acquired the Pillow-Hersey Manufacturing Company, Limited. Physical assets of that organization included rolling mills, cut nail and spike departments, a horseshoe works, all located on St. Patrick Street; and a bolt and nut works on Mill Street.

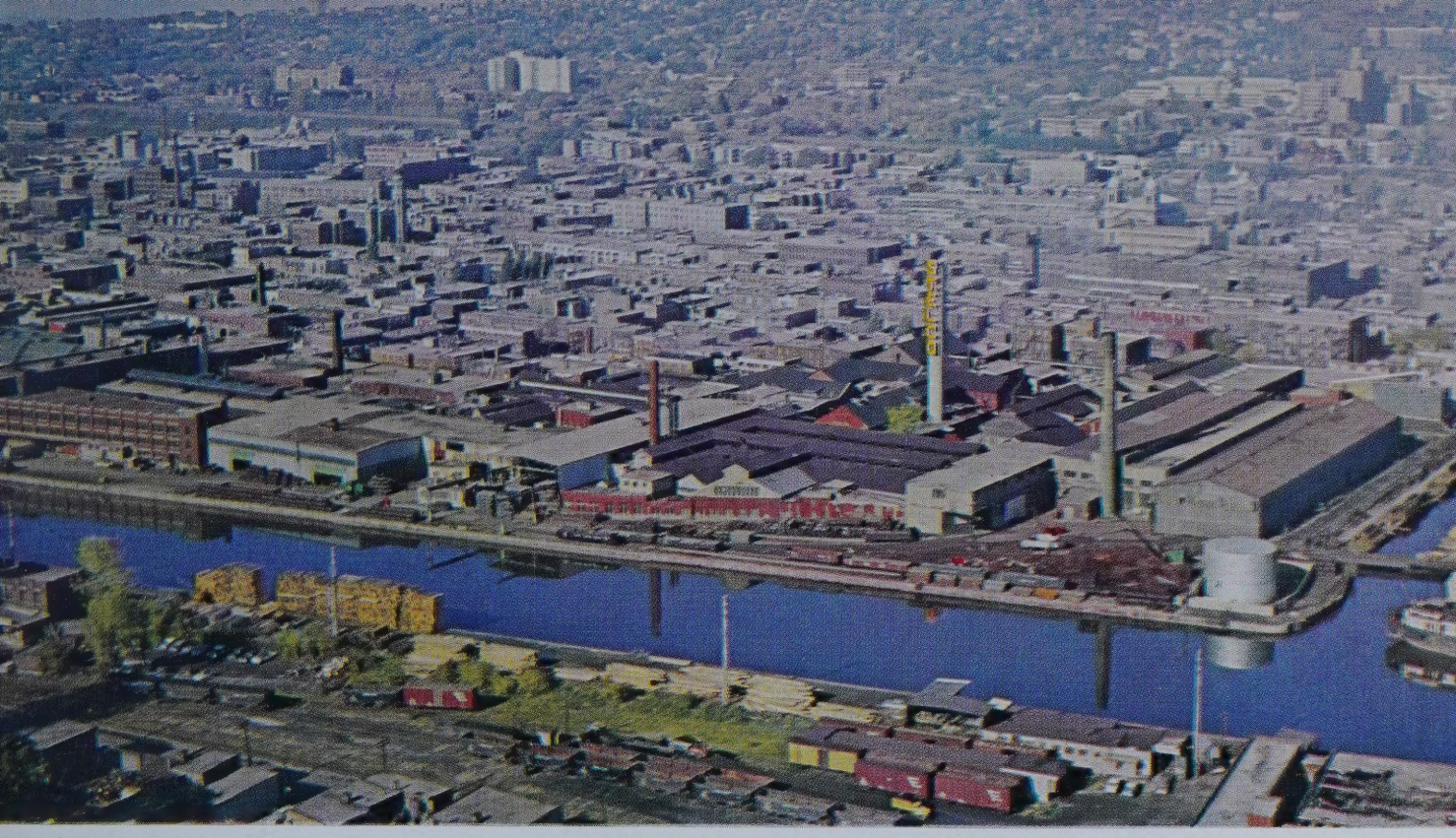
For a number of years after the formation of Stelco in 1910, the Company operated the Pillow-Hersey property on St. Patrick Street under the name of St. Patrick Works. Improvements were made to the plant and new equipment was installed, but, in 1933, in order to consolidate operations and because the plant was inconveniently located it was closed down. Most of the equipment was moved to Hamilton and Notre Dame Works.

St. Patrick Works had been one of the first plants in Canada to install showers for employees, and to form a fire brigade for their protection.

Notre Dame Works has undergone many changes since the turn of the century. Ferdinand Gagne, a veteran employee of 55 years' service and still active, has witnessed many of them. He can recall the change from steam engines as a source of power to electricity; the use of oil in furnaces instead of coal; elimination of horses in the plant and the introduction of tractors and other materials handling



A view of the modern wire nail department at Notre Dame Works. This Stelco plant can trace its origin back to the cut nail plant established by John Bigelow in the 1790's.



Notre Dame Works backs up on the Lachine Canal at Montreal. The Stelco plant is prominent in the foreground of this aerial photograph taken in October, 1959.

equipment; paving of roads inside the plant and the advent of concrete flooring.

Ferdinand, who has spent all his years with the Company in the horseshoe department, remembers when that department employed more than 45 men to produce millions of horseshoes each year. "After 1925", he declares, "production decreased each year as the number of trucks and cars increased on the roads. Today it takes only a few weeks of production to fill the demand for horseshoes in Canada".

In the early days, the rolling mill department had three separate mills; a 9″ mill; a 12″ mill and an 18″ mill all complete with their own furnaces. The mills formed an open circle around a bushelling furnace which was used to prepare scrap for re-use in the rolling mills.

In 1938, the layout of the rolling mill was modernized. In the reorganization the 9″ mill was dismantled and replaced by newer equipment. One oil-fired billet and slab heating furnace and one combination 12″-10″ mill with a separate 18″ merchant mill were installed. These changes, apart from eliminating much of the back-breaking labour, also doubled production capacity. Other improvements made at that time included electric motors for the new mills, new cooling beds, shears and improved handling facilities.

Start of the wire mill division at Notre Dame Works dates back to 1892 with the advent of wire nails. From a small department set up originally to provide wire for the wire nail machines, this department has grown to the point where it now produces a variety of wire products.

Very Modern Mill

The tack, nail and lead departments which form part of the wire mill division were started before 1868. The wire nail department is now one of the most modern of its kind in Canada.

Donat Dupras, a 50-year man, has always worked in the wire mill division. His first job, he remembers, was drawing stove pipe wire on a hand-operated drawing machine. Among changes in tools and equipment he cites the new tungsten dies and automatic wire drawing machines as the most important. "Materials handling equipment and electricity have greatly improved working conditions," he says.

In the middle of Notre Dame Works are the shot tower and putty shop. The shot tower, still the only one in Canada, stands 165 feet high and has become a Montreal landmark. A concrete structure, 15 feet in diameter, it was built in 1930, replacing a wooden structure which had been erected near the turn of the century.

Not very much is known of the early days of the bolt and nut division at Notre Dame Works. Old records show that officials of the Montreal Rolling Mills discussed production of bolts and nuts in 1873 but no action

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This aerial photograph of Gananoque Works shows off its attractive setting. This Stelco plant is noted for its production of high quality drop forgings.

Gananoque Works Makes High Quality Forgings

Not long ago, a visitor to the summer vacationland of the Gananoque district collared a town hotelman and inquired about the thumping sounds he had heard on a trip up river.

"Seem out of place in a tourist town like this," he remarked to his host. "What are they?"

"Those are the drop forge hammers at The Steel Company of Canada," came the reply, "and those thumps are the sweet music of prosperity to us. Our worries start when they stop for very long."

That pretty well sums up the attitude of townsfolk towards Gananoque Works which has been a local institution for 86 years. Today, it is a modern plant employing highly skilled and well paid employees who are turning out with regularity a variety of high quality products.

Traced to 1874

Gananoque Works can be traced back to 1874 when George Gillies started to manufacture spring tooth harrows and corn cultivators for the agricultural implement industry. The following year, Mr. Gillies bought out the firm of Byer and Matthew in Gananoque and later purchased the Top Lifting Company of St. Catharines, which manufactured top joints, bow sockets and buggy rails. Drop hammers and a strap hammer manufactured by E. E. Abbott, who operated a machine shop located next door to Mr. Gillies' plant in Gananoque were also acquired. Two years later, Mr. Gillies took over the entire Abbott holdings and the latter's premises became part of the old Lower Works, which remained in existence until 1930.

In 1893, the George Gillies Company was formed in Gananoque to take over the various activities carried on by Mr. Gillies in that city and in St. Catharines. Two years later, Mr. Gillies was appointed president of the Swansea Forging Company in Toronto, which in 1897, was renamed the Toronto Bolt and Forging Company, Limited. This company subsequently took over the George Gillies Company and following this merger all bolt machinery was concentrated at Swansea while the forging equipment was operated at Gananoque.

In 1909, the Toronto Bolt and Forging Company acquired the Gananoque Bolt Company and the latter's premises subsequently became known as

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First plant to be constructed by Stelco from the ground up, Parkdale Works is shown here late in 1959. It is located at the east end of Hamilton Bay.

Modern Parkdale Works Is Expanding Already

Parkdale Works, which was brought into operation in April, 1956, was the first completely new plant ever to be designed and built from the ground up by Stelco. It is considered to be one of the most modern wire and nail mills in existence.

The plant, which with Canada Works in Hamilton, the Notre Dame wire and nail department and Dominion Works in Montreal, is part of Stelco's wire operations, functions as an independent production unit and is designed to provide a focal point for the future expansion of the wire, wire products and screw division.

The operating division consists of a wire mill, nail mill, heat treat and bundling departments. The administration division includes production planning, engineering and maintenance, accounting, metallurgical, industrial engineering, industrial relations and medical departments.

Within the wire mill, which is specially-designed for the high-speed processing and efficient handling of wire in large unit loads, wire is drawn on 28 modern wire drawing machines. A large part of this wire goes to the plant's nail mill to be made into nails and to other finishing plants. More and more of the plant's production is going directly to customers.

Variety of Nails

More than 2,700 different sizes of nails, including the internationally-known Ardox nail, are manufactured in the nail mill in 85 nail machines of various sizes and speeds. Further nail processing such as galvanizing, heat treating and plastic dipping is also carried out in this department. The nail mill is equipped with a modern magnetic packaging system which feeds nails from a large hopper, automatically segregates them into predetermined weights and then drops them into small containers positioned in a magnetic field so that the nails line up in the same direction. Also located in the nail mill are two automatic packaging units and nail cleaning lines.

Some wire production is processed through a 36-wire hot dip galvanized line, which was the first unit of its kind to be brought into operation on the North American continent. During the galvanizing process, a zinc coating is applied to wire to protect it from corrosion.

Heat treatment is applied to high carbon rods and wire. It is carried out in a 60-foot long gas-fired patenting furnace. Following heat treatment, the patented rods and wire are cleaned and drawn for products such as spacing wire, tire bead wire and so on.

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Make Great Variety of Products In Two Mills at Canada Works

If variety is the spice of life, then Canada Works puts plenty of spice in Stelco from that standpoint alone. It would be a painstaking chore to list the variety of wire, wire products and screws made at Canada Works on Wellington Street in Hamilton.

The wire which binds this magazine is one example of the diversified and high quality products made there.

It would be extremely difficult for any Canadian to live through a day without benefiting from a wire product.

Canada Works has a history dating back to 1866, when the Canada Screw Company was formed in Dundas.

New Owners

The early operations of this company were not successful and in 1876 it was purchased by the American Screw Company of Providence, Rhode Island, which took over the plant, added new and improved machinery. The Company then prospered, and in 1887 the plant was moved to its present site on Wellington Street in Hamilton. It was directed by Cyrus Birge, a Hamiltonian, and Charles Alexander, an American.

Until 1907, the plant was largely a producer of screws. In that year however, the Canada Screw Company merged with the Ontario Tack Company, and by this merger obtained control of the latter firm's wire drawing facilities.

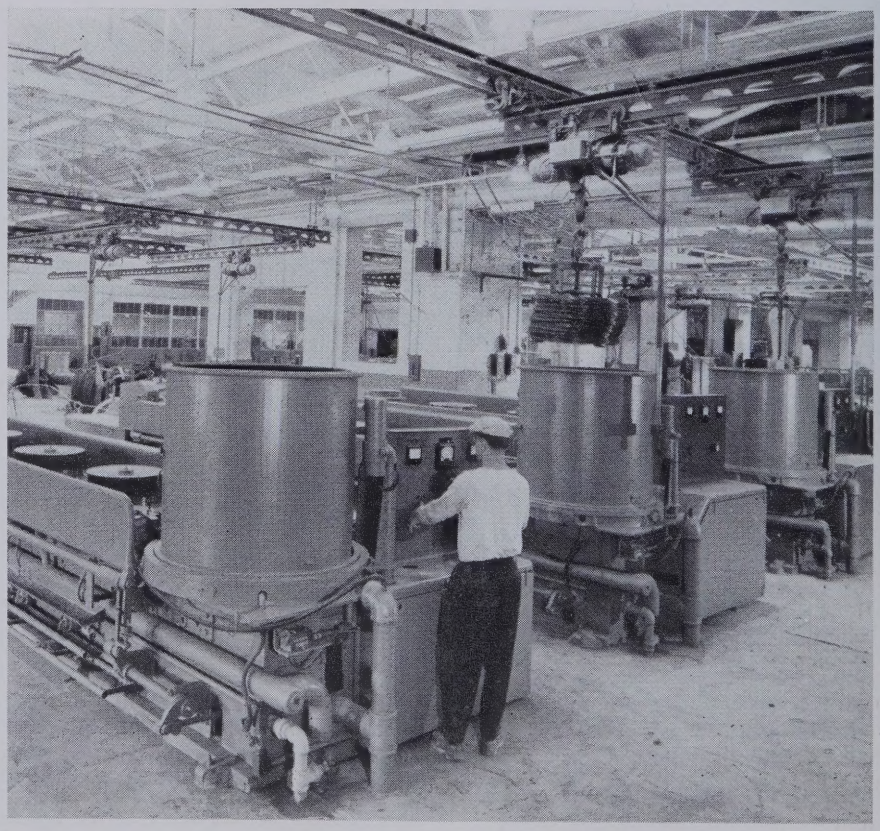
The Ontario Tack Company had been formed in Hamilton in 1885 under the management of F. H. Whitton, who was later joined by J. Orr Callaghan, formerly of the Pillow-Hersey Company.

Initially starting with a few tack machines, the Company developed rapidly and in 1892, the making of wire and nails was begun. Between 1900 and 1902, the Ontario Tack Company absorbed the Western Wire and Nail Company and the Peerless Wire Company.

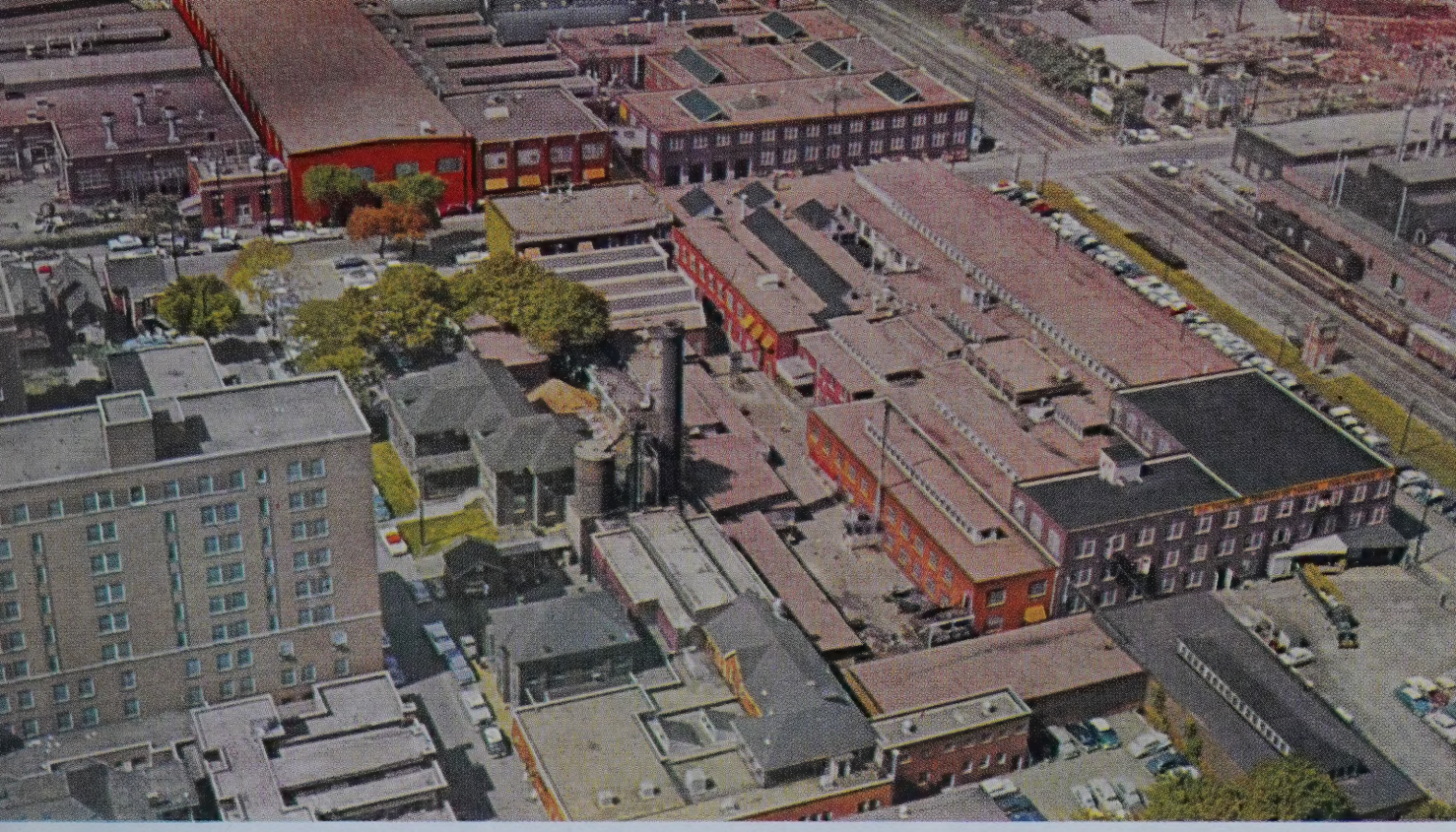
In 1903, the plant of the Ontario Tack Company, which was located on Queen Street, was destroyed by fire. It was rebuilt almost immediately and continued in operation until 1907, when the Ontario Tack Company merged with the Canada Screw Company. After this amalgamation, it was decided to move the tack and wire drawing machinery to a new plant that had been erected opposite the Canada Screw Company on Wellington Street. This plant was later to become the west mill of Stelco's Canada Works.

The Canada Screw Company prospered and retained its identity until 1910 when after the amalgamation of that year, it became known as Stelco's Canada Works.

Following the amalgamation of 1910, many improvements were instituted at Canada Works. In 1918, a new wire mill building was erected and four, 14-block single-hole steel wire drawing frames, which had been built in the plant's machine shop, were installed in the new building. Two years later, 24 fine nail machines, also built in the plant machine shop, were put into operation. In 1922, a mechanical conveyer packaging system was installed in the nail packaging



Great strides have been made in wire drawing in recent years. Shown here is part of the modern continuous wire drawing operation at Canada Works.



This view of the Canada Works operation was taken from back of the East Mill. Wellington Street separates the two mills, the West Mill showing at the top of the picture. Part of the nearby Hamilton General Hospital is seen at the left.

area in the cellar. Between the years of 1926 and 1929, the old-type wooden wire drawing frames were all replaced by metal high-speed single-hole frames. In 1930 motor blocks were installed thereby allowing two-hole drawing to take place in one operation.

Wire Mill Expands

The wire mill began drawing spring wire for furniture springs in 1929. Later that same year, several seven-hole re-drawing continuous frames capable of handling both high and low carbon wire were acquired. Seven years later, two six-hole machines were installed which permitted the drawing of wire as fine as 16 gauge in one operation.

A continuous heavy rope wire drawing machine was placed in operation during 1939 and two seven-hole units for re-drawing smaller sizes of rope wire were also acquired.

Since the end of World War II, Canada Works has shared in Stelco's gigantic over-all expansion programme and the addition of the latest in modern wire drawing and screw-making equipment has enabled the plant to maintain and improve its reputation for producing goods of the highest quality.

Equipment installed within the west mill since the end of the War includes: 33 wire drawing and flattening machines, 6 new annealing furnaces, 2 new heat treat furnaces and an oil tempering unit. During the same period, a total of 81 headers, threaders, nut tappers and shavers, a new tubing machine for packaging screws in tubes, a hydrogen oven and an automatic screw washer capable of washing 75 tons of screws per day have been added to existing facilities within the east mill.

Today, Canada Works produces many grades of semi and fully-processed wire and a wide variety of screw products. Part of the plant's wire production, which is carried on at the west mill, goes as semi-processed raw materials to other Stelco plants to be used in the manufacture of such products as bolts, rivets and lock-washers, or to the east mill to be made into screws. The balance is sold directly to customers.

Ingot Capacity Will Reach 3 Million Tons

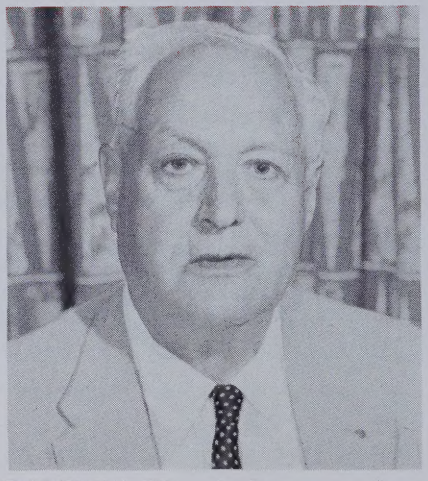
In 1910 when Stelco was formed its ingot capacity was 80,000 tons annually. When the current expansion programme, which includes an additional open hearth furnace, is completed, the annual ingot capacity will approach 3,000,000 tons.

Still Active, These Men Have Witnessed Entire History of Company

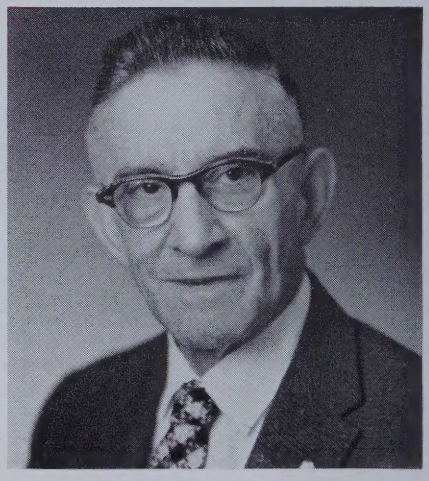
Long Service Stelco Habit

At the end of 1959 it was estimated that 1600 Stelco employees had 25 or more years of service, or about 10% of the total. Official figures available at the end of 1958 revealed that 3,370 watches had been given to employees as long service awards. Of that number, 2,248 were still active members of the Quarter Century Club.

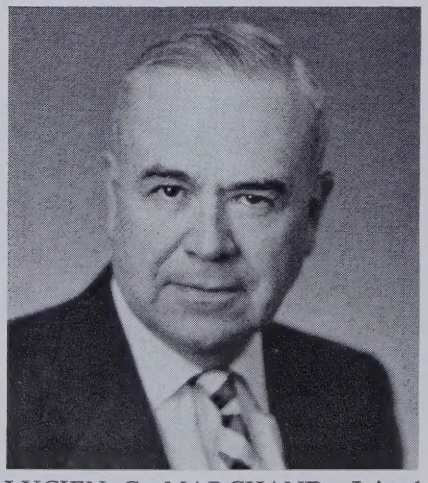
F. S. NICKLE—Winnipeg district sales manager, started his career as an office boy at the Montreal Rolling Mills in February, 1910. He was moved to the Winnipeg sales office in 1936, was appointed to his position of district sales manager ten years later.



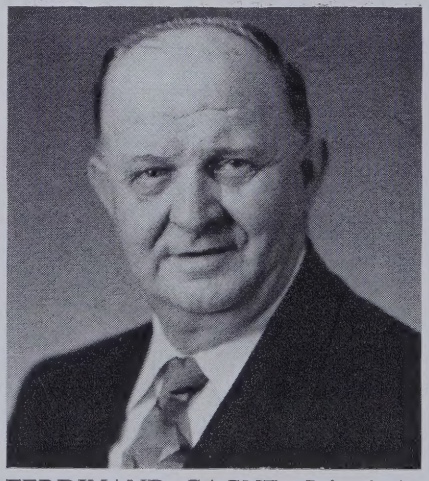
DAVID HAGEL—Assistant crane foreman at the open hearth, joined Hamilton Steel and Iron Company in 1908 as an ingot chaser. At that time, David's father was also employed in the open hearth as a weigh clerk. He has always worked in the open hearth.



DONAT DUPRAS—He started to work for the Montreal Rolling Mills in April, 1910, two months before the formation of Stelco. A member of the fine wire department of the wire mill division at Notre Dame Works, he has witnessed great changes in operations.

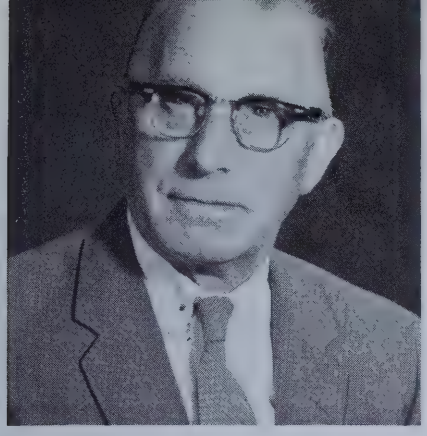


LUCIEN G. MARCHAND—Joined the Company in September, 1910, in the Montreal office. In 1924, he was appointed general sales representative servicing all the French-speaking jobbers and some companies in Montreal.



FERDINAND GAGNE—Joined the horseshoe department of the Montreal Rolling Mills in 1904 at the age of 13 and is still a member of that department. Ferdinand has a son, Paul Emile, who will complete 25 years of service this year.

SIMON PIEPRZAK—Joined the staff of the Hamilton Steel and Iron Company in 1909 as a labourer at the 20″ mill. He was appointed to the position of assistant night shipper in 1911 and is now assistant day shipper at the same plant



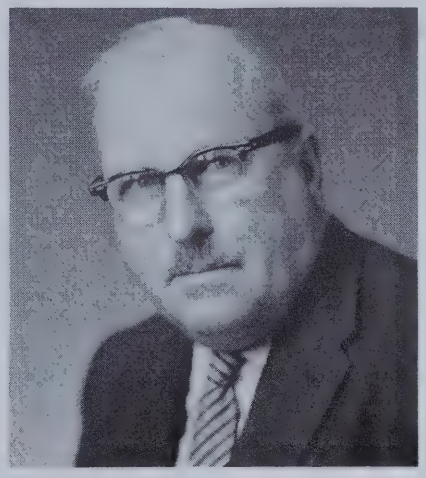
CHARLES JEFFERSON—Joined the Toronto Bolt and Forging Company, Limited in 1909. The next year, that Company was re-named and still later in 1910 became part of Stelco. Charlie is currently an inspector at Swansea.

STANLEY COLCOMB—Now district sales manager, Vancouver office, started with the Montreal Rolling Mills in 1908 as a member of the mailing department. He entered sales work after returning to the Company from World War I.

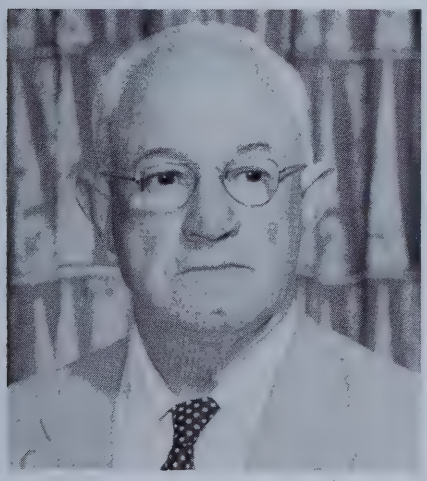
R. H. McMASTER—A director of the Company for 46 years, Mr. McMaster was elected a director in 1914; became a vice-president in 1919 and President in 1926. He was Chairman of the Board from 1945 to 1957.

EDWARD DUFFY—Now a scrap buyer in the purchasing department, joined the Hamilton Steel and Iron Company in 1908 and was first employed as a sweeper in the open hearth. During World War II, Ed was loaned to the federal government.

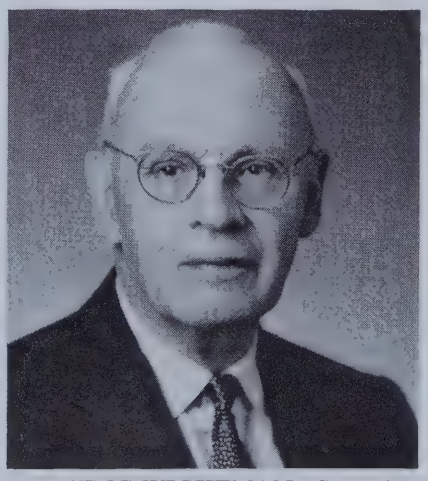
FRANK CROSSMAN—Started with the Hamilton Steel and Iron Company in 1909 as a scrap weigher at the 20″ mill. He came to Hamilton Works in 1911 and is now a shift heater foreman in the bloom mill. The new bloom mill was a revelation to him.



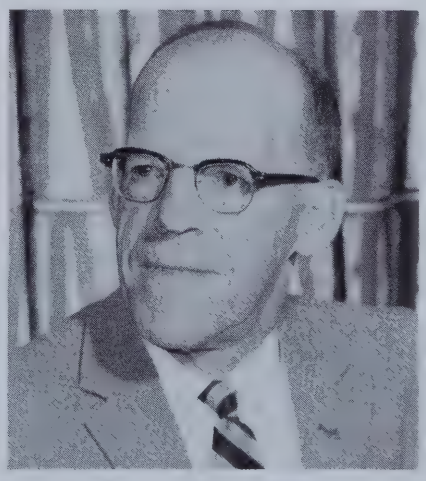
H. OTTO MEYER—Started as an office boy with the Dominion Wire Manufacturing Company in February 1910, four months before the formation of Stelco. Upon his return from overseas in 1919 he joined the wire product sales department.



JAMES RAE—Will mark his fiftieth anniversary with the Company in August. He started as a labourer in the yard services department and is now a locomotive engineer. He remembers when horses were vital to steelmaking operations.



R. IRVING WIGHTMAN—Started as an office boy with the Montreal Rolling Mills in 1908. His career with Stelco has included service in the statistical department, inside shipping, bolt sales and accounts receivable.



HAROLD BAYLEY—Joined the staff of the Canada Screw Company as an office boy in 1905. He is now supervisor of the accounts receivable department at Hamilton General Offices. Harold is still active in the Stelco Ten-Pin League.

Women Prove Vital To Stelco Operations

The steel business, like any other, just couldn't operate without women.

And Stelco, in its 50 years of operation, has been blessed with thousands of loyal and efficient ladies. They have lent both charm and dignity to mills and offices throughout the Company.

More than that, their hard work and intelligence have proved indispensable to the success of all departments during the years. It would be difficult to picture the shambles if their presence was lacking even for a day.

The Company's progress through investment in modern equipment has made their lot easier and provided more pleasant working conditions.

Miss Myrtle Lunt and Miss Jean Veitch, now employed at Canada Works, have 81 years of service between them. They have also worked at the Hamilton General Offices.

Myrtle and Jean were recalling recently some of the changes that have affected their working lives at Stelco. They remember when duplicating machines were unheard of and all copying was done on old-time typewriters. It was rather hard on the wrists particularly in departments where copying was a steady diet of work.

Even pay cheques were individually typed in those days. And all entries were made by hand in the accounts receivable department by four ledger clerks working at long sloping desks.

There was no air conditioning or ladies' lounge and Wilcox Street was unpaved and full of pot holes. On rainy days, the ladies had to step smartly to avoid being splashed by passing vehicles.

But as is the case today, Stelco ladies were well respected and well treated. And they had fun.

Myrtle and Jean both recall when the office staff lunched in a house at the entrance to Hamilton Works. After the noon meal many of the gang would retire to another room and sing songs around an old piano.

Frank Windsor Started Career Back in 1883

Frank Windsor, at 92, is one of Stelco's oldest living pensioners. He celebrated his 25th anniversary with the Company two years before it was incorporated. This strange phenomena was possible because Frank started work in 1883 with the Ontario Bolt and Iron Company which later became Stelco's Swansea Works.

Much Exercise

Frank attributes his long life to a passion for exercise. At one time, his routine day consisted of walking six miles to and from work, 10 hours on the job and a series of wind sprints for relaxation during the evening. His walking habit paid off in another fashion too. He was not among employees involved in the Humber Train disaster of 1884 when 29 employees were killed as their train collided with a freight from Hamilton.

Frank recalls that an unusual piece of heading equipment in the old Swansea plant was an Oliver header. This unit was an oversized blacksmith's anvil into which was set a die. Heated iron bars were placed in the die, above which was poised a large sledge hammer mounted on a pivot and held in position by heavy springs. Another die was set in the sledge. The operator then tripped the sledge with his foot causing the sledge to drop and form the head on the bolt.

Jean Veitch, left and Myrtle Lunt, right, are shown here recalling old times with Marilyn Emery, of the Canada Works office. Marilyn, who commenced her career with Stelco last summer, is a granddaughter of Harold Bayley, supervisor, accounts receivable, himself a veteran of 55 years of service.

The St. Lawrence River can be seen in the background of this aerial photograph. Highlighted is the new pipe mill of McMaster Works at Contrecoeur, Quebec.

Stelco Expands in Quebec With Modern Pipe Plant

McMaster Works, the most recent addition to Stelco's plants, is a 700-acre property situated about 30 miles east of Montreal on the south shore of the St. Lawrence River. Acquisition of this in 1957 marked the first large scale expansion programme in the Province of Quebec by Stelco.

The new works, situated in an area known locally as "The Gateway to the Seaway," is further indication of Stelco's faith in the economic growth of Canada. It was named "McMaster Works" in honour of R. H. McMaster, President from 1926 to 1945; Chairman of The Board from 1945 to 1957, and now a Director, who has been connected with the Company for 55 years.

Initial development of this property is a new $10,000,000 pipe mill. Construction of the plant started in August, 1958 and production of pipe began in September, 1959.

The new mill replaces the pipe-welding operation at St. Henry Works. It features the most modern method of producing pipe by the continuous weld process.

Own Designing

Stelco engineers did much of the design work on the new mill and directed construction and installation of equipment. They allowed for future expansion in the plant. Production equipment, as modern as any in North America, is now providing a high quality product.

In the operation of the new mill, skelp or strip steel in coil form is passed through a furnace, formed and welded into pipe in a series of rolls. Each coil end is welded onto the preceding coil end, thereby providing an endless strip of skelp.

The continuous weld process differs from the former butt-weld process at St. Henry Works because it uses skelp in coil form instead of cut lengths and the weld is formed by pressure rolls instead of by a welding die or "bell."

The new mill will produce pipe in sizes from ⅜ to 4" and will provide a vastly improved, more versatile product which will open new markets for the Company. Pipe from the new mill will be used for such purposes as plumbing and heating, oil and gas distribution lines, as conductors of water, steam and air and a wide variety of industrial uses such as sprinkler systems, refrigeration, air conditioning and others.

Keen Interest in Railways Sparked Hamilton Steelmaking

It is difficult to look at Hamilton Works today—Canada's largest basic steelmaking plant and one of the most progressive in the world—and to try to compare its vastness with the humble seed from which it grew.

Almost hidden by the gigantic superstructures which are visual trademarks of today's plant is tiny blast furnace "A" established originally in 1893 by the Hamilton Blast Furnace Company on a jut of land called Huckleberry Point.

This furnace—still producing iron—was the first piece of equipment located on the present site.

Hamilton Works, however, since it includes the 20″ mill on Queen Street, can trace its beginning to 1864 when the rolling mills of the Great Western Railway were established in that vicinity.

Sir Allan McNab, a resident of Hamilton and Premier of the Province of Canada, supplied the initiative that made possible the early rolling mills. He helped to bring five railways into Hamilton. They created a great deal of local interest in the railway supply business and resulted in, among other things, Hamilton claiming to have produced the first sleeping car in the world.

Re-rolled Rails

When railwaymen complained that English-made rails were not standing up to the rugged conditions of Canadian winters, the Great Western Railway decided to re-roll them in Hamilton. The railway company raised $100,000, and brought in 100 men to work the original equipment.

Trouble soon came to this operation in the form of competition from Pittsburgh, which, taking advantage of the new Bessemer steelmaking process, was rolling top quality rails to sell at low prices. So in 1872 the Hamilton plant shut down.

However in 1878, a group of adventurous Ohio men decided to lease the old Great Western property. They revived the plant a year later and called it the Ontario Rolling Mills Company. Equipment at the time included a 20-inch rail mill; a 20-inch nail plate mill; a 9-inch mill and a mill for puddled bars. Much of the business for the nail plate mill was supplied by the American Nail Works, established by the Ontario Rolling Mills Company and associated with the hardware firm of Wood and Leggatt of Hamilton. The Ontario Rolling Mills Company absorbed the other interests in the nail mill and also purchased the Windermere Rolling Mill in Toronto, the Hamilton Iron and Forging Company and later the London Steelworks Company of London, Ontario.

Made Good Iron

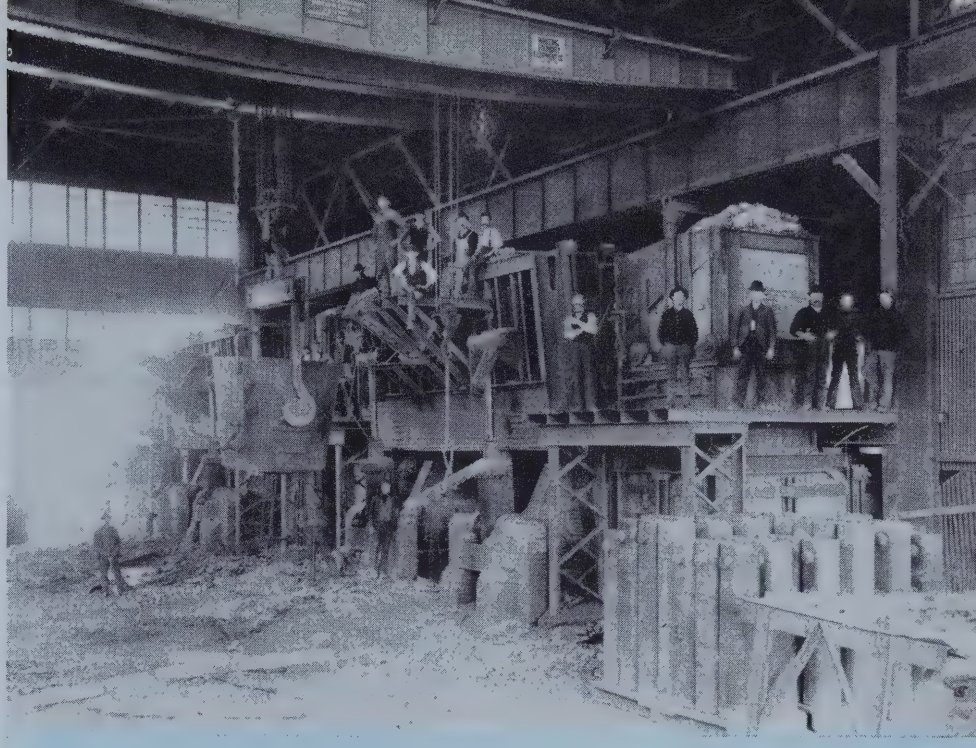
Operations were begun in 1879 and the firm began to produce bar iron of exceptionally good quality. Large tonnages of ship plate were purchased in England from the dismantling of such old ships as the "Great Eastern," "City of Rome" and "Britannic." Plate from the first Victoria Bridge at Montreal was also used as scrap. Fish plates for construction of the Canadian Pacific Railway line were rolled there from scrap iron rails. Now, firmly established, this company moved towards its destiny as part of Hamilton Works. The new owners were joined by a young man named Charles S. Wilcox upon his graduation from Yale

One of the earliest photographs of the Hamilton Blast Furnace Company's operation. This tiny blast furnace is still operating at Hamilton Works.

University. He was destined to become Stelco's first president.

In the early 1890's, visions of a basic steelmaking plant to service the needs of small but fairly healthy steel product firms were appearing to various Canadian businessmen. A Royal Commission of that era confirmed its need. The great iron range of the Mesabi had been discovered and the Welland Canal had been improved in 1887. The Royal Commission pointed out Hamilton's ideal position in a central if limited market and its ideal location for availability of ore and coal.

With this in mind, the Hamilton Blast Furnace Company was formed in 1893 through a combination of Hamilton and New York financial backing. Construction of a blast furnace was begun at Huckleberry Point on Hamilton Bay. It came on "blast" in 1895 but was poorly run. Several months later the Company went bankrupt.



This crew took a break from constructing the first open hearth furnaces at Hamilton Works for the photograph. Notice the ingot moulds at the bottom right. They were tiny compared to today's standards.

Still Producing

But that tiny blast furnace would not bow to adversity and it still produces at Hamilton Works today. In 1896 it was revived, mainly with Hamilton money through the backing of such men as John Milne, a local barrister, A. T. Wood and others. Robert Hobson, previously with the Great Western Railway, became general manager, and a new ironmaker was imported from Cleveland. While the name of this ironmaker is not recorded, he proved his skill so quickly and so well that his enthusiastic superiors and fellow-workers described his every cast as "a cast of pure gold." In any event, the tiny furnace never looked back and began to turn out 300 tons of pig iron daily on a fairly regular basis.

It is interesting to note that the City of Hamilton gave its wholehearted support to the re-organization of the Hamilton Blast Furnace Company. John Milne was able to arrange through City Council: (1) a grant of land; (2) certain bonuses if the furnace came on blast as scheduled; (3) waiver of municipal taxes for a long period ahead. It proved to be one of the best investments ever made by the Ambitious City which receives today more than $1,000,000 yearly in municipal taxes from The Steel Company

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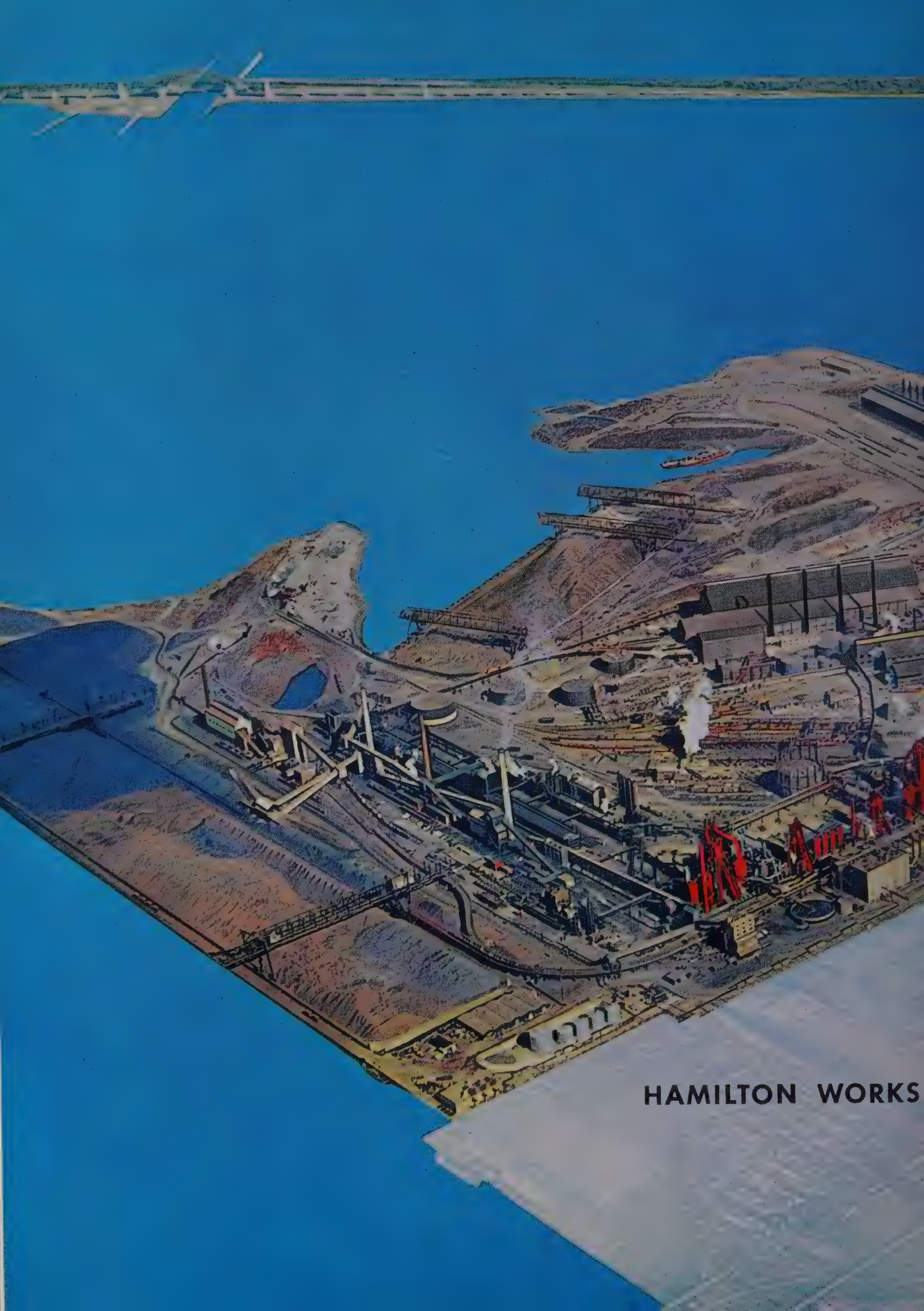
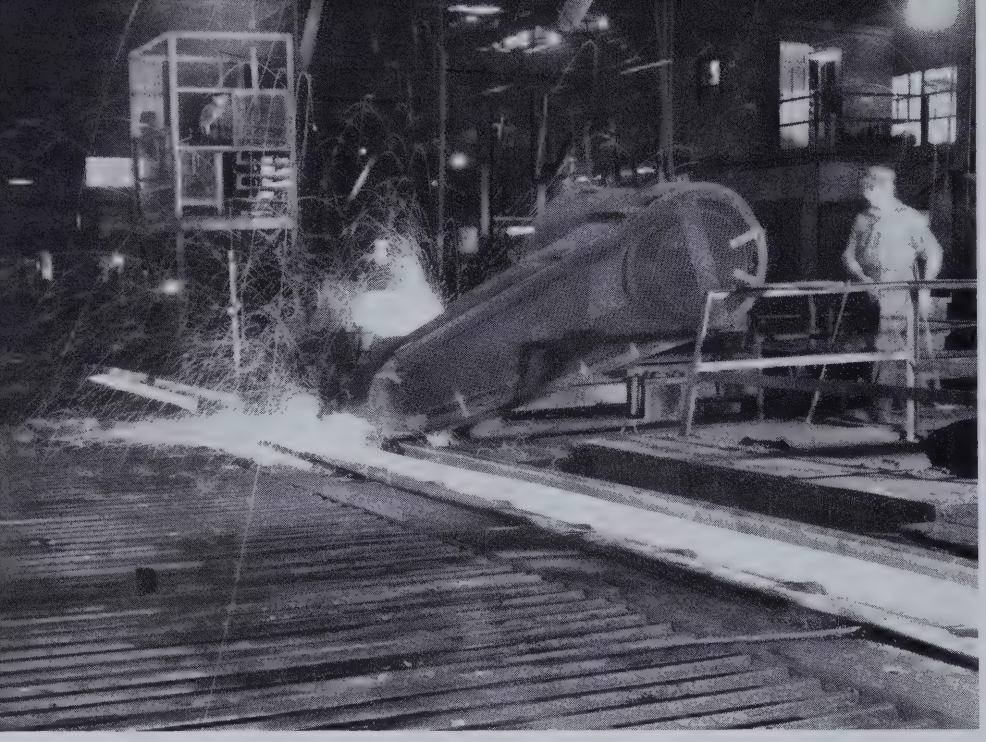
It's easy to see the great strides which have been made in construction techniques by comparing today's operations with this photograph of construction taking place at Hamilton Works in 1916. Notice the use of horses and men with shovels in absence of trucks, tractors and bulldozers.


HAMILTON WORKS

The Steel Company of Canada, Limited

This aerial picture, taken in October, 1959, is a view of the largest basic steelmaking plant in Canada.



Stelco's 20″ mill or Ontario Works grew out of the rolling mills of the Great Western Railway established in 1864 on the same site. The above photograph shows a spectacular operation there, hot sawing of tie plates for the railway business.

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of Canada, Limited, to say nothing of the taxes it receives from Stelco employees.

River Fall Closed Mill

Many things could cause interruptions in production schedules in the early steelmaking days.

At Gananoque, it was a common occurrence for the Gananoque River to fall to such a low level on a summer afternoon that all town industries had to close down by three o'clock.

This was a memory recalled by Walter "Scotty" Watson, at 90, Gananoque's oldest living pensioner. When Walter started working in the steel business, around the turn of the Century, he earned five dollars for a 60-hour week.

Significant Merger

By 1899, the dream of creating a corporation capable of making steel in Ontario from ore to the finished product was close to fulfilment. To make this possible, the Ontario Rolling Mill Company merged with the Hamilton Blast Furnace Company to form the Hamilton Steel and Iron Company capitalized at $2,000,000. Moving quickly, the new corporation installed two 15-ton tilting furnaces and a 14″ bar mill at Huckleberry Point. Since it was not possible economically to justify a bloom and billet mill, six-inch ingots were bottom-cast.

The dream of Ontario's first modern basic steel works had come true.

The new company did not stand still. In 1904 it added another, larger tilting furnace and in 1906 erected its first stationary open hearth furnace. A second blast furnace with twice the capacity of the first was built in 1908.

Report Optimistic

Soon after the incorporation of Stelco, it was evident that big things were in store for the basic steel mill at Huckleberry Point. The 1912 Annual Report of Stelco noted that 1911 had been a year of depression in the United States. But, despite this, "it was decided, to enable us to take care of the increased demand, that considerable additions must be made in machinery equipment at our various plants, and that a blooming mill, billet mill, and rod and bar mill should be built at Hamilton, together with two more 50-ton open hearth furnaces."

These additions were made in 1912-14 and greatly improved the supply of steel to the Finishing works. Then came World War I and the expansion programme planned for peaceful purposes became even more important and timely to the war effort. A shell plant was created at Hamilton Works and 880,000 shells were produced. In addition, all other facilities of the nation's finest basic steelmaking plant were taxed to capacity.

By 1917, considerable demand had arisen for sheet steel and the hand sheet mill was completed that year. The advantages of firing the blast furnaces with a stable supply of plant-produced high grade coke were also evident and two batteries of 40 ovens each were installed in 1918. Later that year a benzol and by-product plant was added to take advantage of the coke ovens by-products. A pig-casting machine also replaced the old method of sand-casting pig iron at the blast furnaces. While these new type of facilities were being planned and erected, the #2 open hearth shop had been started and four furnaces installed during 1916-17, considerably increasing the plant's ability to produce basic steel.

Many Improvements

The demand for basic steel did not tax Hamilton Works to capacity during the next few years and there was little expansion. But, in this period of readjustment, many improvements were made to existing facilities. The

Company earned the respect of steelmakers everywhere during this time by pioneering, in North America, two valuable techniques of steelmaking. First, the Company installed at Hamilton Works a system of mixing waste blast furnace gas with coke oven gas as fuel for several departments. Following this, Stelco made the first comprehensive use of oxygen in open hearth furnaces.

In 1926, a sintering plant was added to Hamilton Works, and two years later the 12″-10″ mill was built and two 150-ton open hearth furnaces were added.

Then the first two ore bridges were built in 1930 as part of the #1 dock project which was completed in 1931. This was done because big ore carriers could now get through the Welland Canal. Prior to this, ore had been unloaded at Point Edward near Sarnia, Ontario, and shipped by rail to Hamilton Works. Also in 1931, a metallurgical laboratory, reported to be the finest in Canada, was built.

The next eight years, with most countries of the world gripped in a depression, brought little or no expansion at Hamilton Works but, once again, the Company took advantage of a period of re-adjustment to improve its equipment and methods of making steel.

Ready for Challenge

Thus, it was in a good position to face the turnabout which occurred in 1939 with the outbreak of World War II and to face the challenge of production vital to the Allied cause. In that year Stelco began one of the most sustained and spectacular expansion programmes ever attempted by any Canadian industry, a programme which increased in tempo when peace was won, and a programme which is still being carried on without any letup in sight. During these years the Company has spent approximately $300,000,000 in plant, equipment and properties.

Every plant of the Company gained substantially during this period, and two new plants, Parkdale Works in Hamilton and McMaster Works at Contrecoeur, Quebec were built from the ground up.

Hot dip tinning stacks were added

Shovelled Snow Off Machines

Can you imagine shovelling snow from machines in order to manufacture steel products?

Well, Laurence McDermott, a veteran of 45 years' service at Swansea Works, remembers when the practice was not uncommon at that plant. In fact, he recalls one occasion when employees spent almost two days clearing the building of snow after a violent storm.

Quite a contrast to the modern and completely weather-proofed plant which is Swansea today.

Stelco's entry into the Canadian iron ore mining operations was highlighted initially by the opening of the Hilton Mines near Shawville, Quebec. This photograph of that operation shows from left to right the primary crusher building, secondary crusher building, storage building, wet mill and pellet plant.

Wage Total Much Greater

The total of wages and salaries paid by Stelco has risen about 27 times in the 50 years of operation. In 1910, the Company paid out $3 million in wages and salaries. The approximate estimated figure for 1959 was $82 million.

to the basic steelmaking plant in 1940 and blast furnace "C," with a capacity equal to that of "A" and "B" combined was built in 1941. The plate mill was also built in 1941 and rolled the plate for every Canadian corvette built during the war. A hot strip mill was added to the plate mill in 1945 marking the beginning of a trend toward flat rolled products which was to grow rapidly as the years went by.

In 1947, a new battery of 61 coke ovens was built to take care of increased pig iron production.

Flat Roll Mills

The trend to flat rolled products became pronounced, and after World War II resulted in the erection of a cold reduction mill and an electrolytic tinning line in 1948.

Then in 1950 came what might be described as a gigantic round of expansion designed to meet the need for greater primary steel production. A new blast furnace, a battery of 83 coke ovens and another open hearth shop were all producing by 1952 and brought Stelco's ingot production over the 2,000,000 ton mark for the first time in 1953. Part of a new dock on the west side of the plant was also operating by 1952, and another 47 coke ovens were added in 1953 as the old #1 and #2 batteries were retired after 40 years of service.

Expansion of plant facilities continued and three major projects were ready by 1955. They included a continuous annealing line and a new sintering plant, reputed to be one of the most efficient in the steel business anywhere.

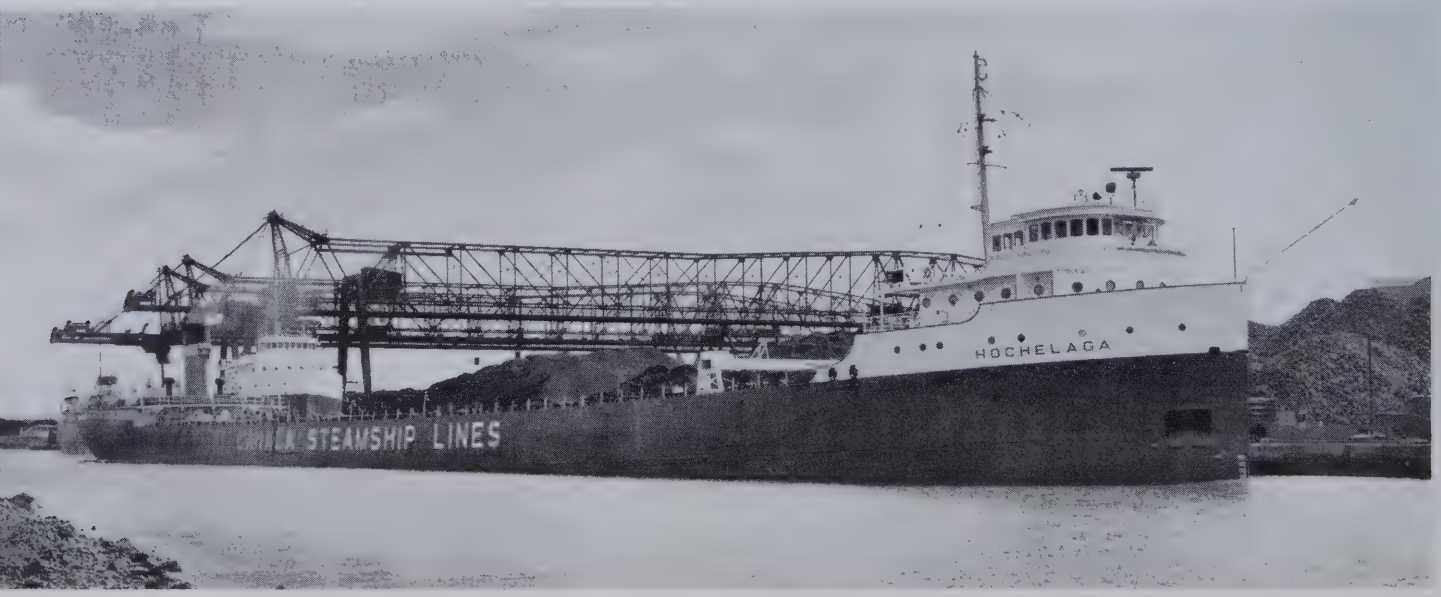
No sooner were these projects completed when news of another major expansion programme was revealed, this time featuring additions to the rolling facilities at Hamilton Works. Included in this programme was a second, $25 million blooming mill, one of the most modern in the world, a cold reversing mill, another electrolytic tinning line. A new metallurgical laboratory with the very latest equipment for quality control of steel and a new roll shop were also features of this particular expansion project. Most of these facilities were ready by 1958.

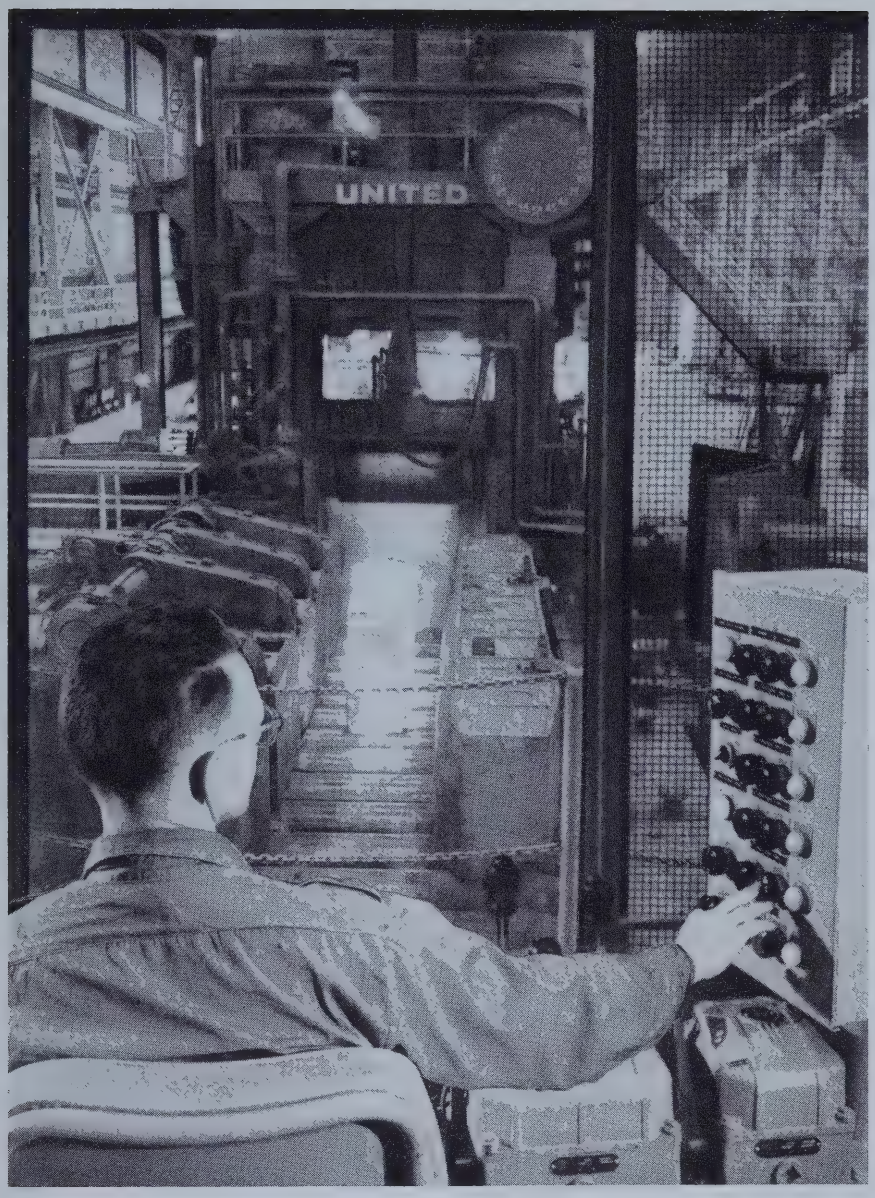
Then, early in 1959, still more expansion was announced. Features of this plan are: the addition of another furnace in #3 open hearth shop which will bring Stelco's annual ingot capacity to nearly 3,000,000 tons; an aluminum-coating and zinc galvanizing line.

Acquired Properties

While all this expansion was taking place at Hamilton Works, the Company was spending a great deal of money to assure the future supplies of raw materials for these new facilities. This was evident in the Company's acquisition of new ore and coal properties, and particularly in its participation in the Erie Mining taconite venture in Minnesota and the opening

The procurement of raw materials is the first and one of the most vital steps in basic steelmaking. A large ore carrier is shown here unloading at Stelco's No. 1 dock. More than 2,000,000 tons of ore and about 1,700,000 tons of coal are required annually at Hamilton Works.





One of the most modern units of its kind in North America, Stelco's new blooming mill was completed in 1958 at a cost of $25 million. This photograph, taken from within the main operating pulpit, shows an ingot being squeezed in the mill.

up of the Hilton Mine at Shawville, Quebec. Stelco's participation in the Erie Mining development was a springboard for its spectacular jump into the Canadian iron ore picture. There it had learned to process low grade ores, plenty of which are available in Canada. It was the experience gained in Minnesota which enabled the Hilton Mine to be established and Stelco to participate in the Wabush Lake iron ore developments in Labrador.

Then, too, the Company made a series of moves to provide for future expansion at Hamilton Works. It bought 18 acres of land from the City on the east side of the plant; acquired a series of water lots adjacent to the Burlington Skyway and most recently announced the purchase of 153 acres and coke-making facilities of the old Hamilton By-Products Company just east of the property it had acquired from the City of Hamilton.

These elements combined sometimes served to overshadow the quiet advances of those Stelco people who are dedicated to making better quality steel.

$25,000 Invested Per Employee

Stelco's investment in plant and properties when the Company began operations was approximately $20 million or slightly more than $4,000 per employee. By the time the present expansion programme is completed the investment will have risen to about $400 million or $25,000 per employee.

Such advances were highlighted at the 1959 annual meeting of the American Iron and Steel Institute when it was revealed how a Stelco team had successfully experimented with a self-fluxing sinter burden, the first advance of its kind in North America.

Set Example

This prompted steelmen everywhere to take another long look at the people, the equipment and the methods of production which go together to make Hamilton Works one of the most modern and progressive steelworks on the continent.

Many steelmen came to look for themselves and to learn. It was a strong seed that the men of the Ontario Rolling Mills and Hamilton Blast Furnace Company had sown.

Continued Growth Brings New Jobs

The expansion of facilities at Stelco in the 50 years of its history have provided many new and better jobs. In 1910 there were 5,105 employees in the organization. The latest available 1959 figures showed a total of 15,679 men and women on the payroll.

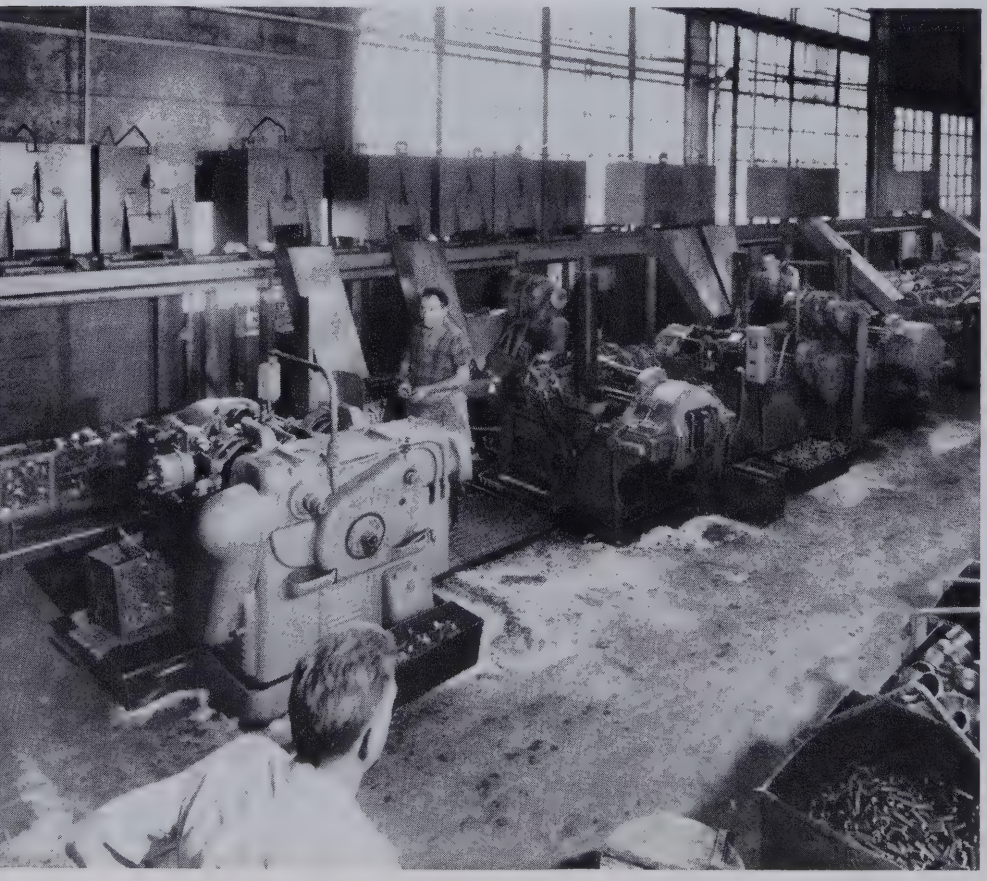
St. Henry Works Concentrates On Pipe Finishing, Distribution

While St. Henry Works is now being supplemented by the new McMaster Works pipe mill at Contrecoeur, Quebec, it continues to play a role in the finishing and distribution of pipe. The history of St. Henry Works dates back to 1888 when butt-weld pipe was first produced in Canada by John and Charles Hodgson owners of a company called J & C Hodgson.

This firm was re-organized in 1902 under the name of Hodgson Iron and Tube Company with the Hon. Robert Mackay as president, William McMaster (father of Ross H. McMaster, Stelco director) as vice-president and managing director, and John C. Hodgson as secretary. That same year the firm was purchased by the Montreal Rolling Mills in which William McMaster was also prominent. The Montreal Rolling Mills had also been producing pipe since 1891.

A tract of land, 38,000 square feet in area, situated on St. Ambroise Street and bordering on the Lachine Canal, was purchased in 1908 to allow for further expansion. Later in the year, the Montreal Rolling Mills moved all its pipe making facilities to the current location of St. Henry Works.

At one time a leader in Canadian production of pipe in the range from ¼″ to 4″ diameter, St. Henry Works has seen many changes. The welding department was entirely rebuilt in 1927, magnetic rolls were installed at the entry end of the furnace and this greatly reduced the labour required to charge skelp into the furnace. Installation of conveyors at that time replaced the old method of pushing the pipe by hand into the sizing rolls. These changes, and various improvements made to the plant in the 1930's improved working conditions and increased production.



The photograph to the left shows a section of the nipple department at St. Henry Works. This department has been continuously improved and is as modern as any similar operation in Canada.

More Improvements

In 1936, a rigid system of inspection for finished products was introduced and a hydrostatic test machine was installed to test pipe under high water pressures. This was improved still further in 1954.

The introduction of a gate department at St. Henry Works in 1914 marked the first production of gates from pipe in Canada. It was moved to Dominion Works in 1953.

Two senior employees at St. Henry Works, John Lachta and Raoul Lacasse, agree that changes made in the galvanizing department in 1955 and finishing department in 1956 were of major importance in improving quality of finished pipe.

Renovations to the galvanizing department included installation of a new galvanizing pot capable of holding 80 tons of molten zinc, modifications to the furnace and fuel system, increased pickling facilities and design of a 10-ton galvanizing unit by Stelco engineers. Magnetic rolls were also installed to withdraw the pipe from the pot along with a blow station which removed excess zinc inside the pipe by the use of superheated steam.

Now Obsolete

Changes in the finishing department were made in the flow line of the pipe from the welding department to the testing operation in the threading department. These changes, now obsolete with the opening of the new pipe mill at McMaster Works, increased production and improved the quality of the pipe.

Fittings for pipe, nipples and couplings have also been fabricated at St. Henry Works. The nipple department at St. Henry has been continuously

This aerial photograph of St. Henry Works was taken from the south side of the Lachine Canal. St. Henry, in the foreground, borders on the canal.

improved and this department is as modern as any in Canada.

With the opening of the new continuous weld pipe mill at McMaster Works, St. Henry Works has been converted to a pipe finishing and pipe storage Works. Pipe fabricated at McMaster Works is being shipped to St. Henry Works for threading, galvanizing, finishing processes and shipping to customers.

A leader for many years among Canadian pipe producers, St. Henry Works will always have its special niche in the history of the Canadian steel industry.

continued from page 5

(NOTRE DAME WORKS)

was taken at that time. It is probable that the fabrication of bolts and nuts started shortly before the purchase of the Pillow-Hersey Manufacturing Company in 1903.

Phil Aldred, a 37-year man in the bolt and nut division, has witnessed many changes there. "Products and equipment have both changed", he says. "The growing demand for products made to rigid specifications has brought this about."

Looking back to his early years with the Company, Phil remembers when materials used to be transferred from department to department in four-wheel carts, carrying loads up to 1500 lbs. Three men were needed to move them along the earth floor. Furnaces were fired by coal, then bunker oil. Now induction heating is replacing those furnaces. Tools and dies have been improved and machines now have many automatic features.

A two-year programme of modernization was completed in the bolt and nut division in 1957. During this period, some production, storage and shipping facilities were renovated. New equipment was installed and departments were moved to more appropriate locations.

continued from page 7

(MODERN PARKDALE WORKS)

The function of the bundling department is to bundle and properly identify coils prior to shipment. Prior to bundling the wire is subjected to various tests such as compression, tensile, and wrap.

Since it was brought into operation in 1956, several improvements have been carried out at the plant and the most recent of these was the installation of additional annealing facilities. These consist of two 108 inch diameter cylindrical crane-operated furnaces and 5 bases each of which are capable of annealing rod or wire at one time. During 1959 new wire drawing machinery valued at $650,000 was added to existing facilities.

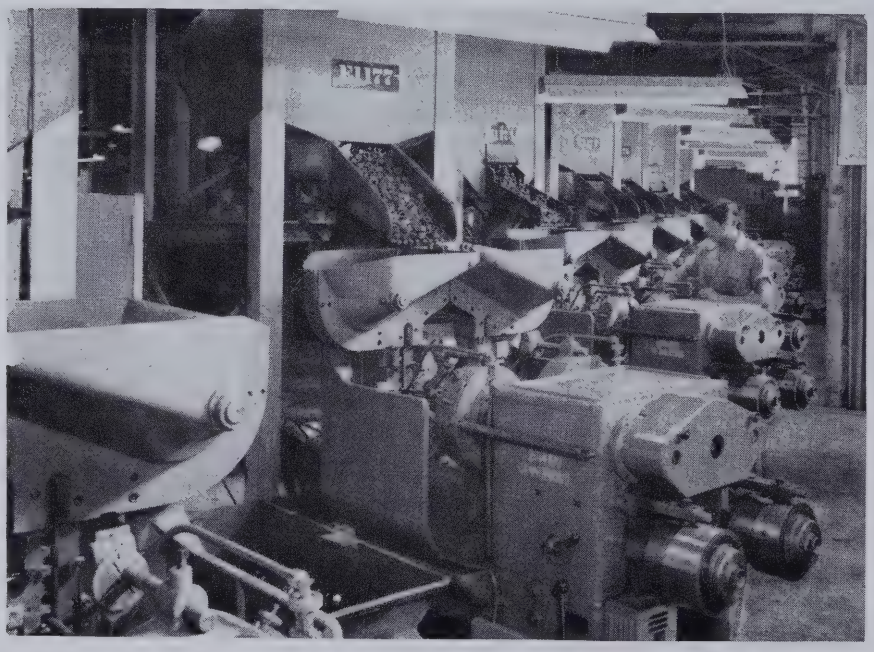
Fuel for the plant is provided by natural gas and by coke oven gas piped directly from Hamilton Works.

Still further expansion of Parkdale Works was announced as this anniversary issue was being produced. A $650,000 addition to the south-east face of the Works was scheduled for completion by the middle of 1960. It will provide 58,000 square feet of space for additional warehousing and manufacturing facilities and also provide for re-arrangement of the shipping department.

Swansea Works Beats Disasters Becomes Leading Bolt Plant

It has been said that great men are often honed on the hard rocks of adversity and nothing worth while is accomplished without overcoming serious obstacles.

Stelco's Swansea Works, one of the finest and most modern bolt plants in North America today, is a perfect example in the industrial life of Canada.



Swansea Works is considered to be one of the most modern bolt plants on the continent. This photograph shows a section of the nut tapping machines in the cold press department.

Before the merger of 1910, Swansea Works had survived: three plant shutdowns; a Toronto train disaster in 1884 which killed 29 employees on their way to work; and a disastrous fire which levelled the plant in 1906.

The origin of Swansea Works, considered today to be one of the most modern bolt plants on the North American continent, goes back to 1868, when Sir Hugh Allan incorporated the Canadian Bolt Company with a plant at Perth, Ontario, for the purpose of manufacturing bolts and nuts.

A Chapin heading machine and several Dunham nut forging machines were installed in the plant, the latter units being Canadian-made. It is believed that this was one of the first instances of heavy production tools having been produced domestically. Previously, most equipment of this type had been imported from the United Kingdom and the United States.

In 1872, the plant moved from Perth to Toronto and occupied a building situated at the corner of Front and Sherbourne Streets. After several years of operation, however, lack of business closed the plant.

In 1879, the Canadian Bolt Company was purchased by John Livingstone and re-named the Dominion Bolt Works. The following year, the name of the firm was changed to the Dominion Bolt and Nut Company. The new company prospered and two years later a new plant and office with a combined area of 40,000 square feet was erected at Swansea, then an obscure suburb of Toronto.

Livingstone's Dominion Bolt and Nut Company became the Dominion Bolt and Iron Company the following year. Two years later, however, despite the injection of half a million dollars of new capital, the Dominion Bolt and Iron Company went into bankruptcy and the Swansea plant closed.

In 1885, The Ontario Bolt and Iron Company was formed and took over the Swansea plant. Six years later, the firm was renamed the Ontario Bolt and Forge Company and the new firm bought the equipment and business of the Dundas Horseshoe and Drop Forge Company. Three years later, however, the Ontario Bolt and Forge Company also went out of business.

Good Fortune Came

The history of failure that had dogged the steps of the various companies since 1868 came to a halt in 1895 when the Swansea Forging Company under the presidency of George Gillies, of Gananoque, assumed the liabilities of the Ontario Bolt and Forge Company. The following year, the former firm merged with the George Gillies Company of Gananoque and the new company was renamed The Toronto Bolt and Forging Company, Limited. All drop forging work was carried out at Gananoque while the bolt and nut machinery of both firms was

This aerial view outlines the neatly arranged exterior of Swansea Works in the western sections of Toronto. Part of Grenadier Pond is seen at the top right.

operated at Swansea. Three years later, the McDonnell Rolling Mills Company at Sunnyside was purchased assuring the Toronto Bolt and Forging Company, Limited of a source of raw materials and an outlet for its scrap.

The Swansea plant was destroyed by fire in 1906, but was re-built almost immediately and electricity installed as the motive power. In 1908 and 1909 respectively, the Toronto Bolt and Forging Company was strengthened by the acquisition of the Belleville Iron and Horseshoe Company, the Gananoque Bolt Company and the Brantford Screw Company. In 1910, the company was re-incorporated as the Canada Bolt and Nut Company, Limited and in June of the same year, the latter firm became part of The Steel Company of Canada, Limited.

More Improvements

Following the merger of 1910, several improvements were carried out at Swansea Works. In 1912, the first automatic nut tapper, which was built and assembled at the plant, was installed.

An addition to the plant building was constructed in 1924 and this now houses the ¾" cold header department, the continuous hot heading, track bolt finishing and keg storage departments. Two years later, the forge shop section was added and an overhead crane was installed. In 1929, a heat treating department was set up to take care of the heat treating of products for the automobile industry.

New Equipment

Between 1930 and the end of World War II, further improvements were made to the plant building and various items of equipment were acquired.

A major expansion of plant facilities took place between 1954 and 1956 with the erection of a new wire storage building and the addition of 100,000 square feet of extra space to the warehouse and heat treat department. Several items of new equipment, including heat treat furnaces, nut formers and boltmakers were also acquired during the same period.

In 1957, a complete automatic packaging and bulk packing conveyerized system was installed which completely eliminated the packaging of products by hand. During that same year, new cold nut formers and automatic tappers were also added to existing facilities.

Today, bolts and nuts manufactured at Swansea Works are used by industry throughout Canada, and exports now account for a considerable percentage of the plant's total production.

Stelco History in Brantford Can Be Traced Back to 1898

In1898, Edward and Fred Chalcraft, father and son, opened a small independent business on Brantford's Dalhousie Street, for the purpose of manufacturing and stocking bolts, nuts, rivets, screws and other types of fasteners.

From this humble beginning sixty-two years ago, emerged Stelco's present-day Brantford Works, a small, modern and compact fasteners plant employing more than 100 persons.

Re-named Firm

In 1899 the two Chalcrafts turned their business into a limited company and the new firm was re-named the Chalcraft Screw Company.

After two years of comparative prosperity, the company ran into stormy weather in 1901. The balance sheet for that year reported an operating loss of $3,000, which was attributed to the unsatisfactory quality of a consignment of English and Belgian wire which the company had imported to make rivet stock and other fastener products.

The directors of the Chalcraft Company took prompt action to remedy the situation. A new company—the Brantford Screw Company, was formed, and Lloyd Harris, later one of the first directors of the Steel Company of Canada, Limited, was named president.

Company Prospered

The Brantford Screw Company prospered, and a new factory was built on the site of the present plant in 1906. Machinery from the old plant, much of which was drawn on skids through the December snow, was moved in as each section of the new building was completed.

The Brantford Screw Company was merged with the Canada Bolt and Nut Company in 1909 and the following year the new firm became part of The Steel Company of Canada, Limited.

During World War I, Brantford Works was kept busy finishing 18-pound shell casings for the Allied war effort. In 1917, it was found necessary to expand the plant's facilities. Additional space was provided for the threader room while the heading department was also extended.

From 1917 to the outbreak of World War II in 1939, many improvements were carried out at the plant. New threaders, headers and nut tappers were added to existing facilities and improvements were made to the plant building.

New Equipment

Automatic roll threader machines were installed in 1940, 1941 and 1942. In 1947, the entry of the plant into the lockwasher field necessitated the acquisition of two rotary furnaces. During that same year, the shipping department was extended by 160 feet and a new boiler house and heating system was installed.

In 1957, new heading and roll threading equipment was acquired and the installation of a new belt and roller conveyer packaging unit, developed and built at Brantford Works, greatly improved the packaging of products.

During the installation of this unit, plant personnel in conjunction with representatives from Stelco's packaging research division, designed and developed a new type of package, the use of which subsequently became standard throughout the heavy bolt division.

Stelco's interest in the Brantford area was still further increased in 1957 when the Company announced that it had acquired 50 acres of property for eventual expansion of its finishing operations.

This photograph is a graphic example of the modern bolt packaging facilities which exist at Brantford Works.

An aerial view of Brantford Works taken in October, 1959. This plant was established in 1898 and after the merger of 1910 became an important part of Stelco.

As this Anniversary Issue went to press it was announced that by the middle of 1960, 25,000 square feet of floor space would be added to the Brantford plant to serve as wire storage and warehouse accommodation. At the same time, trucking facilities will be improved for receiving raw materials and shipping packaged and bulk fasteners.

George Sole Stayed 47 Years at Brantford

When George Sole retired from Brantford Works in 1957 after 47 years of service, he was earning more in 30 minutes than he did in a 10-hour day back in 1910.

George started with the Brantford Screw Company as a toolmaker at $6.80 for a 60-hour week.

He intended to stay for one year and then head for New Zealand to join some old school friends.

Like many another long-service employee at Stelco, George's "temporary" job lasted a lifetime.

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(GANANOQUE WORKS)

the Upper Works at which, following the closing of the Lower Works in 1930, all operations within Stelco's drop forge division were eventually concentrated. Later that same year, the Toronto Bolt and Forging Company was re-incorporated as the Canada Bolt and Nut Company, Limited, which became part of Stelco in 1910.

Many improvements have been carried out at Gananoque in what had become Stelco's drop forge division. One of the first projects to be completed was a new power house and compressor building. Other improvements included extensive rearrangement of the shipping department and stock room, the construction of a new warehouse and the acquisition of new forging equipment.

In 1957, following the completion of a three-year expansion programme a new building extension was erected which added more than 17,000 square feet of space to the plant. Equipment acquired, included: drop hammers, an inclinable press, and various items of machining and welding equipment.

Today, two of the plant's biggest customers are the automobile and agricultural implement industries. However, many other industries rely on forgings manufactured at Stelco's drop forge division. Various items currently manufactured at the plant include: hardware for overhead doors, pole line hardware, range boiler spuds, railway coach seats hardware, railway freight car hardware, parts for washing machines and wringers, bicycle cranks, chain grab hooks, turnbuckles, gear planks and eye bolts. During 1958, the range of products manufactured at the plant was expanded when the production of barbed-wire arm brackets was initiated. These brackets are extensively used in the erection of Stelco chain link fencing, providing a top fitting on the fence posts for the subsequent attachment of barbed wire.

Dominion Works Once Located In Grey Nunnery of Montreal

Dominion Works has undergone many changes in the 77 years since its inception. Founded by two Englishmen, James Cooper and Frederick Fairman, it was known originally as the Dominion Barb Wire Company.

In its early days, the Company was located in the old Grey Nunnery at the corner of Normand Street and Youville Place in Montreal and produced barb wire from imported wire. The two partners, realizing the advantages of drawing their own wire, eventually installed wire drawing blocks and a galvanizing pan. Soon they were also producing wire rope.

The plant was moved to its current location at Lachine in 1883, and the Company was re-organized under the name of Dominion Wire Manufacturing Company. Shortly after the move the plant was expanded to include screw and nail departments. Later, its assets were acquired by William H. Farrell, a brother of James A. Farrell, who at one time served as president of the United States Steel Corporation. In 1910 the Company became part of Stelco and was given its current name.

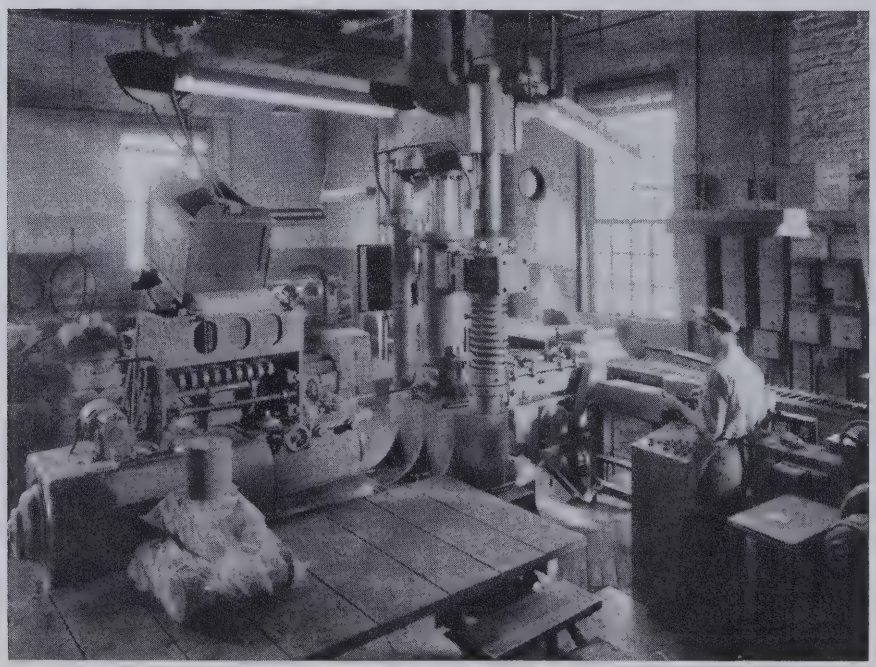
Through the years, the plant has been greatly improved to meet the demands of Canada's developing economy. Old timers at Dominion Works such as Charlie Garrow, a veteran of 46 years of service, still marvel at the labour-saving devices that have been installed. Charlie, looking back at the improvements in machinery and tools, remembers that wire drawing dies were once made of chilled cast iron plates perforated with uniform pin holes. To finish the dies, die setters would hammer the holes with punches to the required sizes. "The holes did not last very long" says Charlie, "and you could hear the continuous hammering of the die setters all through the plant."

Modern Facilities

Wire drawing facilities were increased and modernized as demand grew and today this department has some of the most up-to-date drawing machinery. The first Canadian unit for the electro-galvanizing of wire in Canada was installed at Dominion Works in 1936. Production capacity was increased in 1942 and again in 1958.

In 1928 the fence and welding wire departments were organized. Stelco was one of the first manufacturers of electrodes in Canada.

The fence department, geared for 30 years to produce complete lines of farm fence, light and heavy chain link fence, electric weld fabric, lawn, snow and concrete mesh fence, now concentrates on the production of farm fence only.



For many years, Stelco welding rods have been prominent in Canadian markets. Shown here is a view showing part of welding rod department at Dominion Works.

continued from page 3

(STELCO FOUNDED)

integrated steel industry in the nation. They were encouraged by the fact that Canada had emerged from a period of depression prior to 1896. They were impressed particularly by the settling of the Canadian West which was creating a good market for steel in railway supplies, agricultural equipment, and home construction.

The Canada Screw Company, The Dominion Wire Manufacturing Company Limited and The Canada Bolt and Nut Company were anxious to secure a stable domestic source of basic steel of good quality and variety in order to turn out their finished products. The Hamilton Steel and Iron Company and the Montreal Rolling Mills were competitors in several lines which fact added to other difficulties, was making their futures as separate companies extremely hazardous. A favourable climate therefore existed for union of these five organizations.

Into this climate stepped Max Aitken, a young man who had already established a reputation for attracting English capital to launch Canadian enterprises. After several meetings he and his business associates were successful in effecting the merger.

Letters of incorporation were issued under the Dominion Companies Act on June 9, 1910, establishing the "Canadian Steel Corporation,

Dominion Works is located at Lachine, Quebec, near the St. Lawrence River. The Stelco plant is shown in the foreground of the above aerial photograph.

Limited". That name, however, had already been adopted by another company, and at a meeting on June 17, 1910, the directors adopted an amending resolution. This resulted in promulgation by the Secretary of State of Canada, on June 22, 1910, of letters patent giving the name of the corporation as "The Steel Company of Canada, Limited".

Charles S. Wilcox became the first president of the new firm. He had been president of The Hamilton Steel and Iron Company. As a young man, Mr. Wilcox had come to Hamilton from Yale University to help friends and relatives re-establish the rolling mills of the Great Western Railway which had been idle for seven years from 1872 to 1879. He was also one of those responsible for merging the Hamilton Blast Furnace Company and the Ontario Rolling Mills into the Hamilton Steel and Iron Company.

Robert Hobson, who had entered the steel business with The Hamilton Blast Furnace Company and was a director of The Hamilton Steel and Iron Company, became the general manager of the new corporation and a director as well.

Other Directors

John Milne, one of the men who had struggled to build the Hamilton Blast Furnace Company, became a director. So did William Southam who, like Messrs. Hobson and Milne had been a director of The Hamilton Steel and Iron Company. Cyrus Birge, former president of the Canada Screw Company was made a vice-president and director. Lloyd Harris, M.P., who had been president of the Canada Bolt and Nut Company received a directorship. Other original directors included: Senator William Gibson, president of the Bank of Hamilton; Charles Alexander, a director of the American Screw Company; Hamilton Benn, M.P., of London, England; Herbert S. Holt, president of The Royal Bank of Canada; and W. D. Matthews, a director of the Canadian Pacific Railway.

These were the men who were immediately faced with the task of making the new Canadian steel company succeed.

Stelco's original prospectus summarized the advantages of consolidation as:

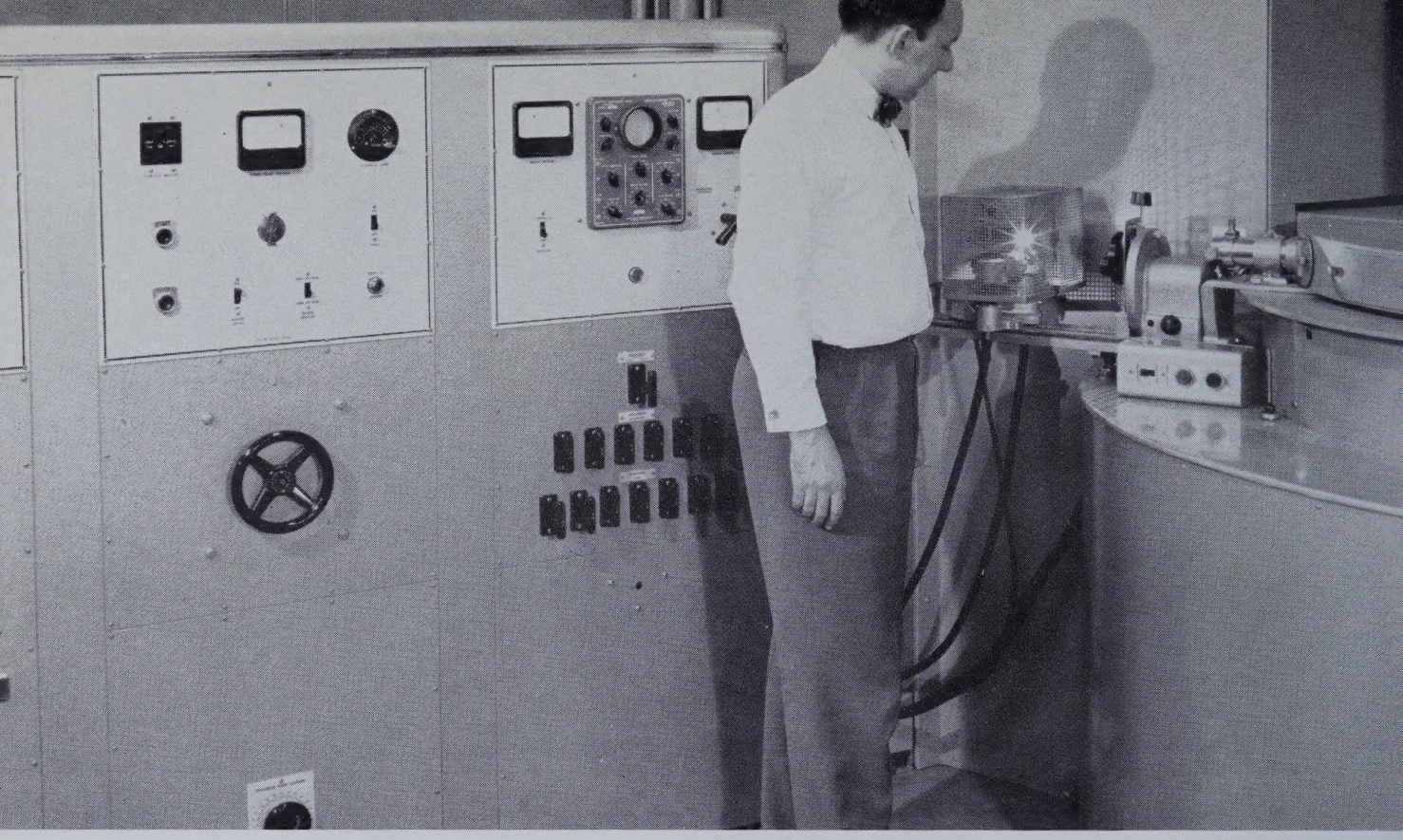
"Reduction in the cost of administration".

"Economies to be effected in the purchase of supplies and material".

"Increased efficiency by specializing the manufactures of the individual plants and the avoidance of unnecessary duplication".

On March 20, 1911, at the first Annual Meeting, President Charles S. Wilcox was able to confirm the hopes outlined in the original prospectus. He reported that results had already indicated the probability of increased output at reduced cost.

Now, fifty years later, the vision and sound business acumen apparent in the prospectus has been proved beyond a doubt in war and peace; in recessions and in periods of unparalleled growth and prosperity.



Completion of the new metallurgical laboratory at Hamilton Works in 1958 added to Stelco's ability to control carefully the quality of its steel. One of the new pieces of equipment was this "Direct-Reading Optical Emission Vacuum Spectrometer" which determines in one easy operation the concentration of carbon, phosphorous, sulpher and arsenic in iron and steel simultaneously with the determination of other elements such as manganese, copper, chromium, tin, nickel and molybdenum.

Ideas, Teamwork and Investment Pay Off

The quest for new and better ways of making steel and its products has gone on relentlessly throughout the 50-year history of Stelco. It has contributed to the success of the Company and its status as one of the most progressive integrated steel firms in the world.

Such things are born of a spirit of doing something beyond a normal day's work; by risking money on new methods and equipment and by employee teamwork of a higher order.

These elements are traditional at every plant in the organization.

Just recently it was revealed that a team of Stelco men had made possible the first successful use of self-fluxing sinter in North American blast furnace practice. About 30 years before this, steelmen received the news that Stelco had learned how to utilize a mixture of blast furnace and coke oven gas to operate some mill equipment. At about the same time, open hearth operators were cheered by increased production because Stelco men had successfully used oxygen to increase the output of open hearth furnaces.

Company engineers also made headlines in the early 1950's when they helped in establishing a slag base for the #2 dock at Hamilton Works. It was a radical departure but proved sound, saved much expensive piling.

Ardox Nail

In 1953, the Ardox Nail was born within the Stelco finishing works division. It promises to be the most significant change in the common nail since the cut nail was displaced by the wire nail. Now the nail is being produced under licence by manufacturers in many countries.

Also in 1953, Swansea employees rejoiced when an addition to Toronto's St. Joseph's Hospital was erected using their high-strength bolts instead of the conventional rivet. This marked the beginning of widely-accepted Canadian use of a new and better product.

In Montreal, the Company has more than kept pace with developments in the highly competitive and ever-changing field of welding rod production. Mine roof bolts, or "sky-hooks" as the miners sometimes call them, were developed at Notre Dame Works through teamwork involving other plants including the small but progressive and re-modernized Gananoque Works. In 1959, many of the highly skilled St. Henry Works employees moved into one of the world's most modern pipe mills at Contrecoeur, Quebec—a plant largely designed by Stelco men.

These have been some of the larger and more spectacular developments. There have been many others, quietly effected by the vision of chemists, metallurgists, engineers, office workers and men in the mills.

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Shareholders Get Anniversary Issue

This 50th Anniversary Issue of STELCO FLASHES is being mailed to shareholders as well as employees. It is recognition, on a special occasion, of their faith in the Company and the vital role they play in its progress.

About the Cover

The striking cover photograph of Hamilton Works by night and all other colour photographs in this issue were taken by Herman DeBruyn, a Hamilton photographer.

Stelco Meets Challenge of Canadian Growth

The theme of this anniversary issue has been fifty years of progress and the preceding pages have carried the story of our Company's growth since incorporation in 1910.

This is really only part of the story. The wider story is around us wherever we go in this country of ours. The story of steel and the growth of our Company in the past fifty years cannot be separated from the growth of Canada.

Anyone who can remember life in 1910 knows first hand the changes that have been made in our everyday living. So closely has steel been tied to those changes that sometimes we do not realize, that without steel, manufacturing would be insignificant, communication slow, and transportation at a horsepace. We would still be working and living the way Canadians did fifty years ago.

If we look around our homes and try to imagine what it would be like without those things made of steel or with steel, we can see at a glance how much we depend on the metal our industry produces.

The increasing use of steel has made the progress of the past fifty years possible. The growth of the steel industry *in Canada* has permitted Canadians to share in this progress to an extent not equalled by anyone else outside North America.

The Steel Company of Canada, Limited is the largest producer of basic steel in Canada, and the fifty-year mark in the Company's history finds it in the middle of another large expansion programme. These expansion programmes will make it possible for Stelco to continue to produce quality steel in quantities sufficient to meet the increasing demands of a growing country.

Fifty years of progress are behind us. A greater challenge lies in the years ahead.

YEARS OF PROGRESS

1910 - 1960